# A HAND-BOOK

TO THE

# FLORA OF CEYLON.

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CONTAINING

DESCRIPTIONS OF ALL THE SPECIES OF FLOWERING PLANTS INDIGENOUS TO THE ISLAND,

AND

NOTES ON THEIR HISTORY, DISTRIBUTION, AND USES.

BY

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## Part VI.

## SUPPLEMENT BY

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# INTRODUCTION

A COMPARISON of Trimen's *Flora of Ceylon* with recently published Indian Floras, such as J. S. Gamble's *Flora of the Presidency of Madras*, H. H. Haines's *Botany of Bihar and Orissa*, T. Cooke's *Flora of the Presidency of Bombay*, and H. N. Ridley's *Flora of the Malay Peninsula*, shows that many genera and species are given different names to those used by Trimen. This is due to the correction of mistakes, changes in the limits of genera and species, and changes made for nomenclatural reasons. In this work a summary of all these changes has been made to bring Trimen's work up to date as far as possible. The author has endeavoured to retain Trimen's arrangement and names whenever possible. Thus Hallier's division of *Ipomœa* into several genera, which is accepted by Gamble but rejected by Haines, has not been adopted, and certain homonyms which have been proposed by Haines but rejected by Gamble have also been rejected. Trimen's spelling of the adjective *zeylanicus*, which is also that of Linnæus and the older botanists, has been retained; to have done otherwise would logically necessitate the admission of *ceylanicus* and *zeylanicus* as valid specific names in the same genus. Certain names such as *Botrys* Lour., *Bahel* Adans., *Anatherum* Beauv. and *Rhaphis* Lour., which have been adopted by no modern authors, have been rejected, and it is proposed that *Ampelocissus* Planch., *Asteracantha* Nees, *Vetiveria* Thouars, and *Chrysopogon* Trin., which have been retained for the above genera, should be added to the list of *nomina conservanda;* but there seems no reason for conserving *Ampelocissus* Planch. against *Vitis* Linn. or *Cissus* Linn., *Asteracantha* Nees against *Hygrophila* R.Br., or *Vetiveria* Thouars against *Andropogon* Linn.

Descriptions of several new species and of certain naturalized plants which were not described by Trimen have been added, and plants found as casuals but not established have been inserted in the keys but not described. The doubtful records mentioned by Trimen have similarly been inserted in the keys, as it appears that Trimen excluded several plants which will probably be rediscovered; *Cleome Burmanii* and *Blumea Wightiana* have already been found.

Comparatively few botanical works have been published in Ceylon in recent years, the most important being F. Lewis's *Descriptive Catalogue of the More Useful Trees and*

MAR 1 1 1932

*Flowering Plants of the Western and Sabaragamuwa Provinces*, a work frequently quoted for native names and localities of plants; J. Attygalle's *Sinhalese Materia Medica*, J. C. Willis' *Revised Catalogue of the Flowering Plants and Ferns of Ceylon*, in which several changes from Trimen's nomenclature and classification were made; and some short notes and papers in the *Annals of the Royal Botanic Gardens, Peradeniya*, by H. Wright, J. C. Willis, T. Petch, and E. J. Livera.

The orthography follows that adopted by Trimen except that the names of introduced and doubtful species are printed in small capitals.

The compiler wishes to acknowledge his indebtedness to the Director and staff of the Kew Herbarium, especially to Mr. C. E. C. Fischer and Mr. C. E. Hubbard; to Mr. K. Biswas, of the Calcutta Herbarium, and to Dr. A. S. Hitchcock, of the U.S. National Herbarium, for numerous identifications.

A. H. G. ALSTON.

PERADENIYA,
CEYLON,
*March* 20, 1928.

# PART I

*Page* 2.—

2. **Clematis gouriana** Roxb.
Hakgala.

**Naravelia zeylanica** DC.
Hiniduma.

*Page* 3.—

**Anemone rivularis** Ham.
Ambevela.

*Page* 5.—For *Delima sarmentosa* L. read:

1. **Tetracera scandens** Merr. Interp. Rumph. p. 365 (1917). *Tragia scandens* Linn. in Stickm. Herb. Amb. p. 18 (1753). *Delima sarmentosa* Linn. Sp. Pl., ed. 2, p. 736 (1762).

*Page* 6.—For *Tertracera lævis* Vahl read:

2. **T. Akara** Merr. in Phil. Journ. Sc. xix, p. 366 (1921). *Calophyllum Akara* Burm. f. Fl. Ind. p. 121 (1788). *Tertracera lævis* Vahl Symb. III, p. 71 (1794).

*Page* 9.—

7. **Acrotrema lyratum** Thw.
Ellaboda Kande.

*Page* 12.—

1. **Dillenia indica** Linn. **Uva,** *T.* (Gamble).

*Page* 14.—

1. MICHELIA *Linn.*

Small trees; fls. pale yellow; lvs. 3–3½ in. long . 1. M. NILAGERICA.
Large trees; fls. yellow; lvs. 4–8 in. long . . 1a. M. CHAMPACA.

*Page* 15.—

1a. M. CHAMPACA Linn.; Hk. f. & Th. in Fl. Brit. Ind. I, p. 42 (1872). **Miung-** or **Gini-Hapu,** *S.* **Chenpakan,** *T.*

A large tree, 40–50 ft.; trunk cylindrical; bark smooth, pale brown, coming off in flakes; young parts silky; leaves ovate-lanceolate, acuminate, acute at apex, cuneate at base, glabrous, entire; lamina 4–8 in. long, 2–3 in. broad; petiole 1 in. long; stipules deciduous, silky; fl. axillary, solitary, 2½ in. diam., on a stout pedicel; perianth segments about 12, glabrous; capsules silky; ovules 3 or more; fruit a spike of follicles, each follicle dull green, dehiscent; seeds scarlet.

Common in secondary jungle. Fl. April, yellow.
Native of India and Java.

*Page* 16.—For *Kadsura Wightiana* Arn. read:

**K. heteroclita** (Roxb.) *Uvaria heteroclita* Roxb. Hort. Beng. p. 43 (1814) nomen; Fl. Ind. II, p. 663 (1824). *Kadsura Roxburghiana* Arn. in Jard. Mag. Zool. Bot. II, p. 546 (1838). *K. Wightiana* Arn. l. c.

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## IV.—ANONACEÆ.

*Page* 16.—

Add to key:

Carp. indehiscent:
- Ovules numerous . . . . . . . 3a. *Canangium.*
- Ovules 2–6; seeds 1–3 . . . . . . 4. UNONA.

And:

Inner row of pet. connivent (not coherent at concave bases):
- Ovules 2–10 . . . . . . . . . 7. XYLOPIA.
- Ovule solitary . . . . . . . . 7a. *Annona.*

*Page* 17.—

### 1. UVARIA *Linn.*

Add to key:

Ripe carpels long stalked:
- Ripe carpels tomentose; fls. purple, 3in. diam. . . . . . . . . *U. grandiflora.*
- Ripe carpels tomentose; fls. buff, 1 in. diam. . . . . . . . 3. U. SEMECARPIFOLIA.

*Page* 18.—

1. **U. sphenocarpa** Hk. f. & Th.
Between Veva and Delgoda.

*Page* 18.—For *U. macrophylla* Roxb. read:

2. **U. cordata** Wall. Cat. no. 6486 (1828). *Guatteria cordata* Dunal, Anon. p. 129 t. 30 (1817). *Uvaria macrophylla* Roxb. Hort. Beng. p. 43 (1814) nomen; Fl. Ind. II, p. 663 (1824).

*Page* 18.—For *U. purpurea* Bl. read:

U. GRANDIFLORA Roxb. Hort. Beng., p. 43 (1814) nomen; Fl. Ind. II, p. 665 (1824). *U. purpurea* Blume Bijdr. p. 11 (1825).

*Page* 19.—

3. **U. semecarpifolia** Hk. f. & Th.
Endemic.

*Page* 19.—

4. **U. macropoda** Hk. f. & Th.
Also in S. India.

*Page* 19.—

5. **U. Narum** Wall. **Pangan**, *S.* (Petch).

*Page* 21.—For *Artabotrys odoratissimus* Br. read:

1. **A. uncinatus** Baill. Hist. Pl. I, p. 232 (1867) (*uncatus*). *Anona uncinata* Lamk. Encycl. II, p. 127 (1786). *A. hexapetala* Linn. f. Suppl. p. 270 (1781). *Artabotrys odoratissimus* R. Br. in Bot. Reg. t. 423 (1820).

*Page* 22.—

3a. Canangium *Baill.*

Trees; flowers axillary, solitary or fascicled; sepals 3, valvate; petals 6, uniseriate, valvate, subequal or inner smaller; anthers extrorse, connective produced into a lanceolate, acute process; carpels numerous; ovules numerous, biseriate; ripe carpels baccate, stalked; seeds numerous, testa crustaceous.—Sp. 3; Tropical Asia.

*Page* 22.—For *Cananga odorata* Hk. f. & Th. read:

Canangium odoratum Baill. ex King in Journ. As. Soc. Beng. LXI, p. 41 (1892). *Uvaria odorata* Lamk. Encyl. I, p. 595 (1783). *Cananga odorata* Hk f. & Th. Fl. Ind. p. 130 (1855); in Fl. Brit. Ind. I, p. 56 (1872).

A tall tree; young parts pubescent; leaves ovate-oblong, acuminate, rounded at base, glabrous; lamina 7–8 in. long, 3–3½ in. broad; secondary veins arcuate, tertiary subparallel; petiole ½ in. long; fls. solitary or fascicled on short axillary peduncles, drooping; calyx shortly triangular, puberulous; petals 6, lanceolate, densely puberulous, 1¾ in. long; carpels 10–12, black when ripe.

Common in secondary jungle. Fls. March; greenish-yellow, sweet-scented.

Native of the Malayan region.

*Page* 22.—For *Unona* L. read:

4. **DESMOS** *Lour.*

*Page* 23.—For *Unona elegans* Thw. read:

1. **Desmos elegans** Safford in Bull. Torr. Bot. Club XXXIX, p. 505 (1912). *Unona elegans* Thw. Enum. p. 398 (1864).

*Page* 23.—For *Unona zeylanica* Hk. f. & Th. read:

2. **Desmos zeylanicus** Safford l. c. p. 506. *Unona zeylanica* Hk. f. & Th. Fl. Ind. I, p. 132 (1855).

*Page* 23.—For *Unona discolor* Vahl read:

Desmos chinensis Lour. Fl. Cochinch. p. 352 (1790). *Unona discolor* Vahl, Symb. II, p. 63 t. 36 (1791).

*Page* 24.—

1. **Polyalthia longifolia** B. & Hk. f. **Assothi,** *T.* (Gamble).

*Page* 28.--

1. **Xylopia parvifolia** Hk. f. & Th.
Also in S. India.

7a. ANNONA *Linn.*

Trees or shrubs; flowers terminal or leaf-opposed, solitary or fascicled; sepals 3, valvate; petals valvate, 6 and biseriate, or 3 and uniseriate; stamens numerous; carpels numerous, each with a solitary erect ovule; ripe carpels confluent into a many seeded fruit.—Sp. 70; natives of America.

Petals narrowly subulate :
  Leaves obtuse . . . . . *A. squamosa.*
  Leaves acute . . . . . *A. reticulata.*
Petals broadly ovate . . . . *A. muricata.*

A. SQUAMOSA Linn. Sp. Pl. p. 537, no. 2 (1753); Hk. f. & Th. in Fl. Brit. Ind. I, p. 78 (1872). *A. asiatica* Linn. l. c., no. 6.

A small tree; leaves lanceolate-oblong, with conspicuous lateral veins and subparallel tertiary veins, glaucous beneath; fls. 1 in. long, with narrowly subulate pubescent petals, and shortly triangular calyx segments; fruit globose with diamond-shaped, tuberculate areoles.

Often found semi-wild.

*Page* 32.—

**Mitrephora Heyneana** Thw.
Foot of Rakvana Hills, east of Balavinna (F. Lewis).

For *Bocagea* St. Hil. read :

Stamens about 20 . . . . 10. SAGERÆA.
Stamens 6 . . . . . 10a. PHŒNICANTHUS.
Stamens 9 . . . . . . 13. ALPHONSEA.

10. **SAGERÆA** *Dalz.*

Trees; sep. small, slightly imbricate; pet. biseriate, usually equal, inner imbricate; stam. 20, connective produced, but not concealing anth.-cells; carpels 3–6; ovules about 8; fr.-carp. 1–4, with several seeds.—Sp. 7; S.E. Asia.

*Page* 33.—For *Bocagea Thwaitesii* Hk. f. & Th. read :

**Sageræa Thwaitesii** Hk. f. & Th. Fl. Ind. p. 93 (1855); King Anon. p. 7 t. 36. *Bocagea Thwaitesii* Hk. f. & Th. in Fl. Brit. Ind. I, p. 72 (1875).

10a. **PHŒNICANTHUS** *gen. nov.**

Trees; sep. small, valvate; pet. biseriate, nearly equal, inner imbricate; stam. 6, connective produced, but not con-

* *Uvariella* Ridl. affinis sed habitu et stamibus 6 satis differt.

cealing anth.-cells; carpels 3, with 2 ovules; fr.-carp. 1–3, with 1–2 seeds.—Sp. 1; Ceylon.

*Page* 33.—For *Bocagea obliqua* Hk. f. & Th. read:

**Phœnicanthus obliquus** (Hk. f. & Th.). *Orophea obliqua* Hk. f. & Th. Fl. Ind. p. 112 (1855); King l. c. p. 110 t. 152A. *Bocagea obliqua* Hk. f. & Th. Fl. Brit. Ind. I, p. 93 (1875). *Alphonsea obliqua* Finet & Gagnep. in Bull. Soc. Bot. Fr. LIII, p. 162 (1906).

*Page* 34.—For *Bocagea coriacea* Hk. f. & Th. read:

4. **Alphonsea coriacea** Finet & Gagnep. in Bull. Soc. Bot. Fr. LIII, p. 162 (1906). *Orophea coriacea* Thw. Enum. p. 8 (1858); King l c. p. 109 t. 151B. *Bocagea coriacea* Hk. f. & Th. Fl. Brit. Ind. I, p. 93 (1875).

*Page* 37.—

3. **Alphonsea sclerocarpa** Thw.
Also in S. India.

*Page* 40.—For *Anamirta paniculata* Colebr. read:

**A. Cocculus** W. & A. Prodr. I, p. 446 (1834); Diels Menispermaceæ in Engl. Pflanzenreich, p. 108 (1910). *Menispermum Cocculus* Linn. Sp. Pl. p. 340 (1753). *Anamirta paniculata* Colebr. in Trans. Linn. Soc. XIII, p. 66 (1821).

*Page* 42.—For *Tiliacora racemosa* Colebr. read:

**T. acuminata** Hk. f. & Th. Fl. Ind. I, p. 187 (1855); Diels l. c. p. 60. *Menispermum radiatum* Lamk. Encycl. IV, p. 100 (1797); *M. acuminatum* Lamk. l. c. p. 101. *Tiliacora racemosa* Colebr. in Trans. Linn. Soc. XIII, p. 67 (1821). *T. fraternaria* Miers in Ann. Nat. Hist. Sér. 3, XIV, p. 254 (1864).

*Page* 42.—For *Limacia* Lour. read:

5. **HYSERPA** *Miers.*

*Page* 42.—For *Limacia cuspidata* Hk. f. & Th. read:

**Hyserpa cuspidata** Miers in Ann. Nat. Hist., Sér. 2, VII, p. 40 (1851); Diels Menispermiaceæ in Engl. Pflanzenreich p. 206 (1910). *Cocculus cuspidatus* Wall. Cat. no. 4960 (1828). *Limacia cuspidata* Hk. f. & Th. Fl. Ind. p. 189 (1855). *Hyserpa triflora* Miers in Ann. Nat. Hist. Sér. 3, XIV, p. 305 (1864). ?*Cocculus triflorus* DC. Syst. I, p. 529 (1818).

*Page* 43.—For *Cocculus* DC. read:

Drupe elongate, $\frac{7}{8}$ in. long; panicles $1\frac{1}{2}$–2 ft. long . 5a. DIPLOCLISIA.
Drupe pisiform, $\frac{1}{6}$ in. long; panicle 1 in. long . 6. COCCULUS.

5a. **DIPLOCLISIA** *Miers.*

As *Cocculus,* but flowers in pendulous panicles from the old wood and the endocarp not perforated.—Sp. 4, E. Asia.

*Page* 43.—For *Cocculus macrocarpus* W. & A. read:

**Diploclisia glaucescens** Diels, Menispermaceæ in Engl. Pflanzenreich, p. 224 (1910). *Cocculus glaucescens* Blume Bijdr. p. 25 (1825). *C. macrocarpus* W. & A. Prodr. p. 13 (1834).

*Page* 44.—For *Cocculus villosus* DC. read:

**C. hirsutus** Diels, Menispermaceæ in Engl. Pflanzenreich, p. 236 (1910). *Menispermum hirsutum* Linn. Sp. Pl. p. 341 (1753). *Cocculus villosus* DC. Syst. I, p. 525 (1818).

*Page* 45.—For *Stephania hernandifolia* Walp. read:

**S. japonica** Miers, in Ann Nat. Hist., Sér. 3, XVIII, p. 14 (1866); Diels l. c. p. 277. *Menispermum japonicum* Thunb. Fl. Jap. p. 195 (1784). *Stephania hernandifolia* Trim. Fl. Ceyl. I, p. 277 (1893) non Walp.

*Page* 47.—

**Cyclea Burmannii** Miers. Vouthu-vully-kodi, T.

*Page* 49.—For *Nymphæa Lotus* Linn. read:

1. **N. nouchali** Burm. f. Fl. Ind. p. 120 (1768). *Nymphæa pubescens* Willd. Sp. Pl. II, p. 1154 (1797); Conrad Waterlililes p. 194 (1905). *N. Lotus* Trim. Fl. Ceyl. I, p. 49 (1893), incl. var. *pubescens* non Linn.

Throughout tropical Asia.

*Page* 50.—

2. **N. stellata** Willd. **Nilu-pul,** *S.*

*Page* 51.—For *Nelumbium speciosum* Willd. read:

**N. nuciferum** Gaertn. Fruct. I, p. 73 (1788), (sub *Nelumbo*). *Nymphæa Nelumbo* Linn. Sp. Pl. p. 51 (1753). *Nelumbium speciosum* Willd. Sp. Pl. II, p. 1258 (1799). *Nelumbium Nelumbo* Druce in Rep. Bot. Ex. Cl. p. 421 (1914).

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## VIIa.—PAPAVERACEÆ.

Herbs; l. alternate, usually compound, without stip.; fl. regular, bisexual; sepals 2; petals 4, biseriate, crumpled; stamens numerous; ovary superior, 1–4-celled; ovules numerous, parietal, anatropous; style short or 0; stigmas radiating, connate; fruit a capsule, dehiscing longitudinally or by pores; seeds small; embryo minute, 2-lobed.

Shrub, with small creamy flowers . . . *Macleaya.*
Herb, with large yellow flowers . . . *Argemone.*

### Macleaya *R. Br.*

M. cordata R. Br. in Denham and Clapp. Narr., App. p. 218 (1826);

Hutch. in Kew Bull. p. 282 (1920). *Bocconia cordata* Willd. Sp. Pl. II, p. 841 (1797); Bot. Mag. t. 1905 (1817).

ARGEMONE *Linn.*

Annual herb, with yellow latex; fls. in few-fld. terminal cymes; ovary 1-celled; style very short; stigmas 4–7-lobed; ovules on 4–7 parietal placentas.—Sp. 12; natives of America.

A. MEXICANA Linn. Sp. Pl. p. 508 (1753); Hk. f. & Th. in Fl. Brit. Ind. I, p. 117 (1872).

Stem erect, 2–3 ft.; latex yellow; leaves sessile, semiamplexical, variegated, glaucous green and white, 1½–4 in. long, set with numerous marginal spines; flowers 2 in. diam.; sepals spinosely horned; capsule 1½ in., longitudinally dehiscent in the upper ⅓.

Waste places in the low country; rather common. Fl. Dec. Apr.; bright yellow.

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## VIIb.—FUMARIACEÆ.

Herbs; l. usually compound; stip. wanting; infl. racemose; fl. irregular, bisexual; sepals 2; petals 4, the outer pair larger; stamens 6, 2 with 2-celled, 4 with 1-celled anthers; ovary 1-celled; ovules 2 or more, amphitropous; placentation parietal; style long or short; fruit a 1-seeded nut or many-seeded capsule; seeds with endosperm, embryo minute.

Fruit a 1-seeded nut . . . . *Fumaria.*
Fruit a many-seeded capsule . . . *Dactylicapnos.*

FUMARIA *Linn.*

Herbs; erect or scandent; l. divided; fl. small; style filiform; ovules 2, on 2 placentas; fruit a 1-seeded nut.—Sp. 40; weeds of cultivation in the temperate regions of the Old World.

F. MURALIS Sonder ex Koch, Syn. ed. 2, p. 1017 (1845); Pugsley in Journ. Bot. L, Suppl. p. 22 (1912).

A diffuse herb; leaves divided; racemes rather lax, equalling the peduncles; bracts linear; fruiting peduncles usually straight; sepals ovate, toothed; corolla pinkish-purple, blackish tipped; fruits sub-globose.

Nuvara Eliya, in cultivated ground. Fl. Oct. Dec.
Native of Europe and N. Africa, also found in Brazil and S. Africa.

DACTYLICAPNOS *Wall.*

D. SCANDENS Hutch. in Kew Bull. 1921, p. 105. *Dietlytra scandens* D. Don. Prodr. Fl. Nep. p. 198 (1825). *Dicentra scandens* Walp.

Rep. I, p. 118 (1842); Prain in Journ. As. Soc. Beng. LXV, p. 13 (1896). *D. thalictrifolia* Hk. f. & Th. Fl. Ind. p. 273 (1855); Fl. Brit. Ind. I, p. 121 (1875).

Found as an escape at Ramboda.
Native of Northern India.

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## VIII.—CRUCIFERÆ.

Pods long:

Pod turgid; seeds ½ breadth of pod . . 1. NASTURTIUM.

Pod narrow:

Pod more or less 4-angled; fls. yellow . *Barbarea.*
Pod flattened; fls. white or pale yellow . 2. CARDAMINE.
Pod terete, beaked; fls. bright yellow . 2a. *Brassica.*

Pods short; fls. white:

Pod many-seeded . . . . . . . 2b. *Capsella.*
Pod 2-seeded . . . . . . . 2c. *Coronopus.*

*Page* 53.—For *Nasturtium officinale* R.Br. read:

NASTURTIUM FONTANUM Asch. Fl. Prov. Brand. p. 32 (1864). *Cardamine fontana* Lamk. Fl. Fr. II, p. 499 (1778). *Nasturtium officinale* R. Br. in Ait. Hort. Kew, ed. 2, IV, p. 111 (1812). *Sisymbium Nasturtium-aquaticum* Linn. Sp. Pl. p. 657 (1753). *Radicula Nasturtium-aquaticum* R. & B. List Brit. Seed-Pl. p. 3 (1907). *R. Nasturtium* Druce in Ann. Scot. Nat. Hist. p. 219 (1906). *R. officinalis* Groves in Bab. Man. Bot. ed. 9, p. 26 (1904). *Rorippa Nasturtium* Beck. Fl. Nieder-Ost. p. 463 (1892). *R. Nasturtium-aquaticum* Schinz and Thell. in Vierteljahrschr. Nat. Ges. Zurich LIII, p. 538 (1909).

Aquatic herb with a creeping or floating stem; leaves glabrous, pinnate; infl. racemose; fls. small, white; petals exceeding the sepals; pods up to 1 in. long; seeds biseriate.

Naturalised at Kandy and in the montane zone.
Native of Temperate Asia and Europe.

BARBAREA LYRATA Asch. Fl. Prov. Brand. I, p. 35 (1864). *B. vulgaris* R. Br. in Ait. Hort. Kew, ed. 2. IV, p. 109 (1812). *Erysimum Barbarea* Linn. Sp. Pl. p. 660 (1753). *Erysimum lyratum* Gilib. Fl. Lituan. II, p. 59.

Var. STRICTA Andrj. in Bess. Enum. Fl. Volh. p. 72 (1822) sp.

There is a specimen of this at Peradeniya labelled "Horton Plains, Feb. 1857."

*Page* 53.—For *Cardamine subumbellata* Hk. f. read:

Petals wanting . . . . 2. C. TRICHOCARPA.
Petals present . . . . 2a. *C. hirsuta.*

2. **C. trichocarpa** Hochst. ex A. Rich. Tent. Fl. Abyss. I, p. 18 (1847); O. E. Schulz, in Engl. Bot. Jahrb. XXXII, p. 462; Gamble

Fl. Madr. p. 38 (1915). *C. subumbellata* Hk. f. & Th. Fl. Brit. Ind. I, p. 138 (1872). *Cardamine borbonica* Ind. Kew, non Pers.

2a. C. HIRSUTA Linn. Sp. Pl. p. 655 (1753).

A small annual herb, up to 8 ins., sparingly branched, glabrous; leaves stalked, pinnate; leaflets usually 2 pair, stalked, irregularly lobed; inflorescence racemose; flowers with white petals; stamens 4; siliquas much narrower than in *C. trichocarpa*, seeds 10–15.

Moist region 1–4000 ft., common. Fls. white.
Native of the North Temperate Zone.

### 2a. BRASSICA *Linn.*

Leaves large, pinnatifid or lyrate, rarely entire; infl. racemose; sepals erect or spreading, the lateral ones usually saccate at base; petals 4, yellow; fruit an elongated siliqua; seeds uniseriate; cotyledons incumbent, folded with the radicle within the longitudinal fold.—Sp. 85; Temperate regions of the Old World.

B. JUNCEA Coss. in Bull. Soc. Bot. Fr. VI, p. 609 (1859); Hk. f. & T. And. in Fl. Brit. Ind. I, p. 15 (1875). *Sinapis juncea* Linn. Sp. Pl. p. 668 (1753).

Erect annual, about 2½ ft. high; stem glaucous; leaves varying from simple to pinnate, obovate-lanceolate in outline, 2–5 in. long, petiolate; petioles purple; sepals spreading; petals clawed, longer than the sepals; pods erect, slightly compressed, 1¼ in. long, beaked; seeds globose, dark, rugose.

Common in waste places; Fls. May, Oct., Feb.; lemon yellow.
Native place unknown.

### 2b. CAPSELLA *Medik.*

Leaves radical, entire or pinnatifid; infl. racemose; sepals spreading; petals white; pod obcordate-cuneate, laterally compressed, dehiscent; style short; seeds numerous, biseriate.—Sp. 4; temperate regions.

C. BURSA-PASTORIS Medik. Planzeng. p. 89 (1792). *Bursa pastoris* Weber in Wigg. Prim. Fl. Hols. p. 47 (1780).

A hairy annual; stem 6–12 in. high; leaves simple or pinnatifid; fls. $\frac{1}{10}$ in. diam., white; style short; pods obcordate-cuneate, on long pedicels; seeds numerous, punctate.

Common about Nuvara Eliya.
Native of Europe and N. Asia.

*Page* 54.—

### 2c. CORONOPUS *Gaertn.*

Annual herbs; leaves pinnate; fls. racemose; pod laterally compressed, warted, 12-seeded.—Sp. 12; Subtropics.

C. DIDYMUS Sm. Fl. Brit. II, p. 691 (1804); R. Muschler in Engl. Bot. Jahrb. XLI, p. 134 (1908). *Lepidium didymum* Linn. Mant. I, p. 92 (1767). *Senebiera didyma* Pers. Syn. II, p. 185 (1807); Petch, in Ann. Perad. VII, p. 329. *S. pinnatifida* DC. Mem. Soc. Hist. Nat. Par. p. 144 t. 9 (1797); Ind. Kew. *Carara didyma* Britt. in Britt. & Br. Ill. Fl. U.S. ed. 2, II, p. 167 (1913).

Procumbent; leaves glabrous or slightly hairy, $\frac{2}{3}$ in. long; racememes 1 in. long; fls. white; sepals and petals equal; pods notched at apex, the valves falling apart as closed nutlets.

Naturalised by the Ramboda road, Nuvara Eliya (Petch).
A supposed native of the Argentine.
LEPIDIUM SATIVUM Linn., the Garden Cress, is cultivated.

*Page* 55.—

1. **CLEOME** *Linn.*

Add to key:

Stamens numerous:
Fls. pink or purple:
Lvs. 5–9-foliate; fls. racemose . . . 4. C. CHELIDONII.
Lvs. 3-foliate; fls. axillary . . . *C. felina.*

C. FELINA Linn. f. Suppl. p. 300 (1781); Hk. f. & Th. in Fl. Brit. Ind. I, p. 170 (1875).
Native of the Carnatic, but seems quite likely to occur in Ceylon.

*Page* 55.—For *C. aspera* Koen. read:

Fls. yellow; leaves subsessile; leaflets spathulate 3. C. ASPERA.
Fls. pink; leaves petiolate; leaflets elliptic . . 3a. C. BURMANNII.

*Page* 56.—

3. **C. aspera** Koen. in DC. Prodr. I, p. 241 (1824); Thw. Enum. p. 14 (1858); Hk. f. & Th. in Fl. Brit. Ind. I, p. 169 (1872).

A branched annual herb, 6–12 in. high, diffuse, glabrous with small distant prickles; leaves trifoliolate, subsessile; lfts. subsessile, spathulate, finely serrate; fl. solitary, $\frac{1}{4}$ in. diam., on long pedicels; stam. 6; pods $\frac{1}{2}$–1 in.; ped. slender, about $\frac{1}{2}$ in.

Low country, probably common, but only recorded from Colombo (N. G. Ball), Jaffna and Batticaloa.
Fl. March, June and July; yellow.
Also in S. India.

3. **C. Burmannii** W. & A. Prodr. p. 22 (1834); Hk. f. & Th. in Fl. Brit. Ind. I, p. 170 (1872). *C. aspera* Trim. Fl. Ceyl. I, p. 56 (1893) pp. non Koen. *C. dodecandra* Linn. Sp. Pl. ed. 2, p. 939 (1763).
Low country, common?; Illupaikadavai, Mannar Dist; Kirinde.
Fl. Feb., Dec.; pink.
Also in S. India.
*C. dodecandra Linn.* had purple flowers according to Burmann,

while *C. viscosa* Linn. has yellow ones. Linnæus states (Fl. Zeyl. no. 242) that it has 8 stamens and (Sp. Pl. ed. 2, p. 939) that it has 12 stamens which seems to show some confusion with Fl. Zeyl. no. 240.

*Page* 59.—

2. **GYNANDROPSIS** *DC.*

Petals white; stem slender, pubescent . . G. PENTAPHYLLA.
Petals pink; stem glabrous . . . . *G. speciosa.*

*Page* 59.—

**Cratæva Roxburghii** R. Br.

For fls. "greenish-white" read:

Stamens pale mauve; petals dull orange.

*Page* 60.—For *Cadaba indica* Lamk. read:

**C. fruticosa** Druce in Rep. Bot. Exch. Cl. B. I. 1913, p. 415 (1914). *Cleome fruticosa* Linn. Sp. Pl. p . 671 (1753). *Cadaba indica* Lamk. Encycl. I, p. 544 (1783).

Analaitivu Is.; Kokkuttoduvai, near Kokkilai lagoon; Puttalam.

*Page* 60.—

6. **CAPPARIS** *Linn.*

Add to key:

Shrubs:
  Fruit ovoid or oblong:
    Leaves 1½–3 in. long; branches armed . C. ZEYLANICA.
    Leaves 3–6 in. long; unarmed or thorns minute . . . . . . *C. Heyneana.*

*Page* 66.—For *Viola Patrinii* DC. read:

1. **V. betonicifolia** Sm. in Rees, Cycl. XXXVII, no. 7 (1817); Becker in Phil. Journ. Sc. XIX, p. 716 (1921). *V. Patrinii* DC. Prodr. I, p. 293 (1824).

For *V. distans* Wall. read:

2. **V. arcuata** Bl. Bijdr. p. 58 (1825); Becker in Phil. Journ. Sc. XIX, p. 710 (1921). *V. distans* Wall. Cat. no. 4022 (1828), in Trans. Med. Phys. Soc. VII, p. 227 (1835). ?*V. palmaris* Buch. in DC. Prodr. I, p. 298 (1824).

*Page* 67.—For *Ionidium* Vent. read:

2. **HYBANTHUS** *Jacq.*

For *Ionidium suffruticosum* Ging. read:

1. **Hybanthus enneaspermus** F. Muell. Nat. Pl. Vict. I, p. 44 (1879). *Viola enneasperma* Linn. Sp. Pl. p. 937 (1753). *V. suffruticosa* Linn. l. c. *Ionidium ennespermum* Vent. Jard. Malm. t. 27 (1803). *I. heterophyllum* Vent. l. c. *I. suffruticosum* Ging. in DC. Prodr. I, p. 311 (1824). *Hybanthus suffruticosus* Baill. Bot. Méd. II, p. 841 (1884). *H. heterophyllus* Baill. l. c.

*Page* 67.—For *Ionidium ramosissimum* Thw. read:

2. **Hybanthus ramosissimus** Melch. in Engl. u. Prantl. Nat. Pfl. ed. 2, XXI, p. 360 (1925). *Ionidium ramosissimum* Thw. Enum. p. 21 (1858).

*Page* 68.—For *Alsodeia* Thouars read:

3. **RINOREA** *Aubl.*

For *Alsodeia zeylanica* Thw. read:

1. **Rinorea zeylanica** O. Ktze. Rev. Gen. p. 42 (1891). *Alsodeia zeylanica* Thw. Enum. p. 21 (1858). *Pentaloba zeylanica* Arn. in Mag. Zool. Bot. II, p. 692 (1838).

*Page* 69.—For *Alsodeia decora* Trim. read:

2. **Rinorea decora** Melch. in Engl. u. Prantl. Nat. Pfl. XXI, p. 352 (1925). *Alsodeia decora* Trim. in Journ. Bot. XXIII, p. 203 (1885).

*Page* 69.—For *Alsodeia virgata* Hk. f. & Th. read:

3. **Rinorea virgata** O. Ktze. Rev. Gen. p. 42 (1891). *Alsodeia virgata* Hk. f. & Th. in Fl. Brit. Ind. I, p. 189 (1872).

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## XI.—BIXACEÆ.

Add to key:

Petals without an adnate scale:
  Anthers longitudinally dehiscent (*Bixeæ*):
    Leaves compound . . . . . *Cochlospermum.*
    Leaves simple . . . . . . *Bixa.*
  Anthers dehiscing by pores (*Flacourtieæ*):

*Page* 70.—For *Cochlospermum Gossypium* DC. read:

C. RELIGIOSUM (Linn.) *Bombax religiosum* Linn. Sp. Pl. p. 552 (1753). *B. Gossypium* Linn. Syst. Nat. ed. 12, p. 457 (1767). *Cochlospermum Gossypium* DC, Prodr. I, p. 587 (1824), **Tanaku,** T. (Gamble).

*Page* 71.—For *Scolopia Gærtneri* Thw. read:

3. **S. Schreberi** J. F. Gmel. Syst. p. 793 (1788). *S. pusilla* Willd. Sp. Pl. p. 981 (1799). *Limonia pusilla* Gaertn. Fruct. I, p. 297 (1788). *Scolopia Gærtneri* Thw. Enum. p. 400 (1864).

*Page* 72.—For *Erythrospermum phytolaccoides* Gardn. read:

**E. zeylanicum** (Gaertn.) *Pectinea zeylanica* Gaertn. Fruct. II,

p. 136 (1791). *Erythrospermum phytolaccoides* Gardn. in Calc. Journ. Nat. Hist. VII, p. 9 (1846).

*Page* 73.—For *Flacourtia sepiaria* Roxb. read:

2. **F. indica** Merr. Interp. Rumph. p. 377 (1917). *Gmelina indica* Burm. f. Fl. Ind. p. 132 (1768). *F. sepiaria* Roxb. Cor. Fl. I, p. 48 (1795).

*Page* 74.—For *Aberia* Hochst. read:

5. **DOVYALIS** *E. Mey.*

*Page* 74.—For *Aberia Gardneri* Clos. read:

**Dovyalis hebecarpa** Warb. in Engl. Nat. Pfl. III, 6a, p. 44 (1893) (*Doryalis*) *?Xylosma hebecarpum* Lignier & Bey. in Bull. Soc. Linn. Norm. Sér. 5, VII, p. 167 (1904). *Aberia hebecarpa* O. Ktze. Rev. Gen. p. 43 (1891). *Roumea hebecarpa* Gardn. in Calc. Journ. Nat. Hist. III, p. 9 (1846). *Aberia Gardneri* Clos. in Ann. Sci. Nat. Sér. 4, VIII, p. 236 (1857).

*Page* 75.—

**Trichadenia zeylanica** Thw. **Titta-eta,** *S.* (F. Lewis).
Valley of Hangomuva-ganga; Gilimale; Rakvana; Balangoda; Kegalle District (F. Lewis).

For *Hydnocarpus* Gaertn. read:

Fruit dehiscent, glaucous, green . . . 5a. CHLOROCARPA.
Fruit indehiscent, brown or black . . . 6. HYDNOCARPUS.

5a. **CHLOROCARPA** *gen. nov.**

Tree; leaves simple; fls. diœcious; sep. 5, imbricate; pet. 5, with a scale on the inner face; male fl.: stam. 5; fem. fl.: ov. densely pubescent; stigmas 5; fruit a green fleshy capsule; seeds numerous, pilose, oily.—Sp. 1; endemic.

*Page* 76.—For *Hydnocarpus alpina* Wight read:

**Chlorocarpa pentaschista** sp. nov.† *Hydnocarpus alpina* Trim. Fl. Ceyl. I, p. 76 (1893) non Wight. **Pat-ma, Gomma,** *S.* **Attuchankulai,** *T.*

Fruit green, tomentose, ovoid, pentagonous, tardily dehiscent into 5 valves.

Pallegama.
Endemic.
*H. alpina* is small tree with very large, black, indehiscent fruits, it is not found in Ceylon.

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* Affinis *Ryparosa* Blume, sed floribis fasculatis differt.—Typus *C. pentaschista.*

† Species unica, foliis integris, glabris, floribus pubescentibus, capsulis ovoideis.—Typus *J. M. Silva* 147.

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## 1. **POLYGALA** *Linn.*

Add to key:

Lvs. acute:

Racemes 2–3-fls.; fls. white or purple . . 4. P. GLAUCOIDES.
Racemes many-fld.; fls. yellow . . . *P. elongata.*

*Page 80.*—

2. **P. javana** DC.
Middeniya, S.P.; Mananpitiya, near Polonnarura.

*Page 81.*—

P. ELONGATA Klein in Willd. Sp. Pl. III, p. 879 (1804); Benn. in Fl. Brit. Ind. I, p. 203 (1872).

This is known from the "Western Peninsula, from the Concan southwards" so that Ceylon seems a much more likely locality for Walker's plant than the Himalaya as suggested by Trimen. There are specimens that may be this mixed with *P. rosmarinifolia* W. & A. at Peradeniya, but the characters that separate these species require further study in the field. The Fl. Brit. Ind. states that the flowers of *P. rosmarinifolia* are green and of *P. elongata* yellow, Trimen gives reddish-pink, while my specimens were yellow with red spots.

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8. **P. telephioides** Willd.
Up to 4000 ft. Peacock Hill, Pussellava.
I have never seen this with yellow flowers.

*Page 83.*—For *Salomonia oblongifolia* DC. read:

1. **S. ciliata** DC. Prodr. I, p. 354 (1824) non. Auct. *S. oblongifolia* DC. l. c. *Polygala ciliata* Linn. Sp. Pl. p. 705 (1753).

*Page 84.*—For *Xanthophyllum flavescens* Roxb. read:

**X. geminiflorum** (Dennst.). *Kaulfussia geminiflora* Dennst. Schluess. Hort. Malab. p. 30 (1818). *Xanthophyllum virens* Roxb. Hort. Beng. p. 88 (1814) nomen; Cor. Pl. III, p. 81 (1819). *X. flavescens* Roxb. ll. c. pp. 88, 82.
**Keley-gas** S. (F. Lewis). **Mattei** T. (Gamble).

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# XIV.—CARYOPHYLLACEÆ.

Leaves without stipules; styles distinct:
Calyx gamosepalous:

Styles 2 . . . . . . . . *Saponaria.*
Styles 3 . . . . . . . . *Silene.*

Calyx free:
Petals bifid:
Capsule cylindrical, opening by 10 teeth . . 1. CERASTIUM.
Capsule ovoid, opening by 3 teeth . . . 2. STELLARIA.
Petals entire or wanting . . . . . . . *Sagina.*
Leaves with scarious stipules:
Styles free; petals entire . . . . . . 2a. *Spergula.*
Styles more or less combined:
Petals bifid . . . . . . . . . 3. DRYMARIA.
Petals entire or nearly so:
Sep. keeled on the back . . . . . 4. POLYCARPON.
Sep. all scarious . . . . . . . 5. POLYCARPÆA.

SAPONARIA *Linn.*

S. VACCARIA Linn. Sp. Pl. p. 409 (1753); Edgw. & Hk. f. in Fl. Brit. Ind. I, p. 217 (1872).

Has occurred at Peradeniya as a casual in introduced Fenugreelk.

A weed of cultivation found in India and Tibet. Native of Europe.

SILENE *Linn.*

S. ARMERIA Linn. Sp. Pl. p. 420 (1753).

Has occurred as a casual at Bandaravela.

Native of Europe.

For *Cerastium vulgatum* Linn. read:

**C. glomeratum** Thuill. Fl. Par. ed. 2, p. 226 (1790). *C. vulgatum* var. *glomeratum* Trim. Fl. Ceyl. I, p. 55 (1893).

*Page* 86.—

2. STELLARIA *Linn.*

Ovary 3-celled; cap. 1 seeded . . . . . 1. S. PAUCIFLORA.
Ovary 1-celled; caps. many seeded . . . . 1a. *S. media.*

For *Stellaria drymarioides* Thw. read:

1. **S. pauciflora** Zoll. and Mor. in Mor. Syst. Verz. p. 30 (1845–1846); Briq. in Ann. Cons. Bot. Gen. XIII–XIV, p. 378 (1911). *S. drymarioides* Thw. Enum. p. 24 (1858).

Also in Java and the Mascarene Is.

1a. S. MEDIA Vill. Hist. pl. Dauph. III, p. 615 (1789); Burnat Fl. Alpes I, Marit I, p. 357; Edgw. & Hk. f. in Fl. Brit. Ind. I, p. 230 (1872). *Alsine media* Linn. Sp. Pl. p. (1753) pp.; Wight Ic. t. 947 (1843). *Alsine avicularum* Lamk. Fl. Fr. III, p. 46 (1778).

Herb; stem 4 in. to 2 ft., procumbent, with a line of hairs along it; leaves ovate or lanceolate, acuminate, acute, $\frac{1}{4}$–$\frac{1}{2}$ in. long, lower long petioled, upper sessile; fls. axillary or in terminal cymes, $\frac{1}{4}$–$\frac{1}{3}$ in. in diam.; pedicels glabrous or pubescent; sepals obtuse or subacute, glandular-pubescent, green; petals shorter than the sepals, rarely wanting; stamens 3–10;

styles 3; capsule ovoid, exceeding the sepals; seeds brown, tuberculate.

Montane zone above 5000 ft., introduced. Nuvara Eliya; Hakgala. Flowers Jan.–Dec., white.
Cosmopolitan, ?native of North Temperate Zone.

SAGINA *Linn.*

S. PROCUMBENS Linn. Sp. Pl. p. 128 (1753); Edgw. & Hk. f. l. c. I, p. 242.
Montane zone, introduced, rare.
Native of North Temperate Zone.

2a. SPERGULA *Linn.*

Herbs; leaves opposite, with leafy buds in their axils, whence they appear to be whorled; stipules scarious; fl. in cymes; sep. 5, distinct; pet. 5, distinct, entire; stem. 5–10, inserted on a perigynous disk; ov. 1-celled; ovules many; styles 3–5; capsule subglobose, with 3–5 valves; seeds keeled or narrowly winged.—Sp. 3.

S. ARVENSIS Linn. Sp. Pl. p. 440 (1753); Edgw. & Hk. f. l. c. p. 243. *Spergularia arvensis* Cambess. in A. St. Hil. Fl. Bras. Mer. II, p. 179 (1828). *Alsine arvensis* Crantz. Inst. II, p. 408 (1766).

Pubescent or glandular herb with linear-subulate, semi-terete, rather fleshy leaves in false whorls; fls. in terminal, peduncled cymes, $\frac{1}{6}$–$\frac{1}{4}$ in. in diam.; sep. ovate, obtuse; petals obtuse, entire; seeds black.

Montane zone, introduced; Nuvara Eliya; Hava Eliya; Ambevela. Fl. Jan.–Dec., white.
Also in India. Native of North Temperate Zone.

*Page* 87.—For *Polycarpon Lœflingiæ* Bth. & Hk. f. read:

**P. indicum** Merr. in Phil. Journ. Sc. Bot. X, p. 302 (1915). *Lœflingia indica* Retz. Obs. p. 38 (1786). *Pharnaceum depressum* Linn. Mant. II, p. 564 (1771). *Polycarpon depressum* Edgw. & Hk. f. in Fl. Brit. Ind. I, p. 245 (1875) Sphalm. non Mitt. *P. Lœflingiæ* B. & H. Gen. Pl. I, p. 153 (1862).
Soraboraveva; Bintenna; Hakgala.

*Page* 88.—

5. **POLYCARPÆA** *Lamk.*

Leaves linear . . . . . . . . . . 1. P. CORYMBOSA.
Leaves spathulate . . . . . . . . . 2. P. SPICATA.

2. **P. spicata** W. & A. in Ann. Nat. Hist. Sér. 1, III, p. 91 (1839); Fl. B. Ind. I, p. 246; Willis in Ann. Perad. V, p. 167.

An erect annual herb, 2½–3 in. high, branched from the base; branches once or twice forked, glabrous; leaves broadly

spathulate, glabrous, ½ in. long, 0·2 in. broad, in whorls at the nodes; stipules linear-lanceolate, mucronate, scarious; flowers ⅙ in. long; bracts and sepals with a white scarious border, acute; petals smaller than the sepals, oblong, obtuse; capsule small, brown.

"On one of the small islands off the coast of Jaffna . . . *J. P. Lewis* 8.xii.03."—Willis l. c.

This specimen is not now in the herbarium at Peradeniya.

Also in India, Arabia, North Africa, and Australia.

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## XV.—PORTULACACEÆ.

| | |
|---|---|
| Ovary half-adnate . . . . . . . . . | PORTULACA. |
| Ovary free . . . . . . . . . | *Talinum.* |

### TALINUM *Adans.*

T. PATENS Willd. Sp. Pl. II, p. 863 (1799).

There is a specimen of this in Herb. Perad. labelled Colombo, W. Ferguson. There is also a cultivated species called Gas- or Rata-niviti.

It is a native of Tropical America.

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### **TAMARIX** *Linn.*

| | |
|---|---|
| Stamens 5 . . . . . . . . . | T. GALLICA. |
| Stamens 10 . . . . . . . . . | *T. ericoides.* |

T. ERICOIDES Rottl. in Nov. Act. Nat. Cur. Berol. IV, p. 214 t. 4 (1803); Dyer in Fl. Brit. Ind. I, p. 249 (1872).

This is known from "Central India, Bengal, and the Western Peninsula."

*Page* 92.—For *Bergia verticillata* Willd. read:

**B. capensis** Linn. Mant. I, p. 241 (1767); Gamble Fl. Madr. p. 69 (1715). *B. verticillata* Willd. Sp. Pl. II, p. 770 (1779).

*Page* 93.—

### **HYPERICUM** *Linn.*

| | |
|---|---|
| Shrub; fls. large . . . . . . . | 1. H. MYSORENSE. |
| Herbs: | |
| Leaves not punctate; ovary 1-celled; stem quadrangular . . . . . . | 2. H. JAPONICUM. |
| Leaves punctate; ovary 3-celled; stem 2-edged . . . . . . . . . | *H. humifusum.* |

H. HUMIFUSUM Linn. Sp. Pl. p. 785 (1753); Dyer in Fl. Brit. Ind. I, p. 254 (1872). *H. rubum* Wight ms.

Dyer gives the distribution as: Nilghiris, Europe, Atlantic Isles, and S. Africa, but does not suggest that it is adventive in any of these localities.

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## XIV.—GUTTIFERÆ.

Add to key:

Climbing plants . . . . . . . . . *Clusia.*
Trees:

CLUSIA *Linn.*

C. ROSEA Jacq. Enum. Pl. Carib. p. 34 (1760).
An occasional escape. Native of Tropical America.

*Page* 96.—

2. **Garcinia Morella** Desr. **Makki** T. (Gamble).

3. **G. echinocarpa** Thw.
Also in S. India.

*Page* 97.—

4. **G. terpnophylla** Thw.
Avisavella (Jowitt); Pasdun Korale; Adam's Peak Forest; Balangoda; Rakvana (F. Lewis).

G. TINCTORIA W. F. Wight in U.S. Dept. Agr. Bur. Pl. Ind. Bull. no. 137 p. 50 (1909). *G. Xanthochymus* Hk. f. in Fl. Brit. Ind. I, p. 269 (1872). *Xanthochymus pictorius* Roxb. Cor. Pl. II, p. 51 (1798) non *G. pictoria* Roxb. *X. tinctorius* DC. Prodr. I, p. 562 (1824). ?*Garcinia malabarica* Desr. in Lamk. Encycl. III, p. 701 (1791). **Rata-goraka,** *S.* **Seemai-goraka,** *T.*
This is often cultivated. A native of S. India.

*Page* 98.—

2. **CALOPHYLLUM** *Linn.*

Flower buds glabrous:
  Inflorescence shorter than the leaves:
    Young parts glabrous; fruit globose, $1\frac{1}{4}$–$1\frac{1}{2}$ in.; ovary red; leaves 3 in. broad, all similar, with interstitial veins . . . . . . 1. C. INOPHYLLM.
    Young parts rufous-tomentose; fruit up to $\frac{3}{4}$ in.; ovary usually greenish:
      Leaves all similar; bracts of infl. small:
        Leaves 4–10 in., lanceolate, with interstitial veins; fruit $\frac{3}{4}$ in.
          Fruit not apiculate:
            Leaves $5\frac{1}{2}$–10 in. long, acuminate . . . . 1a. *C. elatum.*
            Leaves 4–5 in. long scarcely acuminate; fls. $\frac{3}{4}$ in.; petals 4; bark reddish brown . . . . 2. C. TOMENTOSUM.

Fruit apiculate; leaves 5–10 in. long, scarcely acuminate; fls. $\frac{1}{3}$ in.; petals o; bark yellowish grey . . . 3. C. Soulattri.

Leaves 1–2$\frac{1}{2}$ in., without interstitial veins, scarcely acuminate; fruit not apiculate; petals o:

Fls. $\frac{1}{2}$–$\frac{3}{4}$ in.; fruit $\frac{1}{2}$–$\frac{5}{8}$ in.; leaves broadly elliptic or obovate; young shoots tomentose . . . . 4. C. Calaba.

Fls. $\frac{1}{4}$–$\frac{3}{8}$ in.; fruit under $\frac{1}{2}$ in.; leaves lanceolate or elliptic; glabrous except buds . . . . 5. C. pulcherrimum.

Leaves very dimorphic, acuminate; bracts of infl. large; petals 4; fls. under $\frac{1}{2}$ in. diam; fruit $\frac{5}{8}$–$\frac{3}{4}$ in. . . . . . 6. C. bracteatum.

Inflorescence equalling or longer than the leaves; leaves small, 1–3 in., all similar; fruit $\frac{5}{8}$–$\frac{3}{4}$ in.:

Leaves rounded or cordate at the base:

Petals 4, yellowish-white; fls. nearly 1 in.; interstitial veins springing from the midrib . 7. C. Thwaitesii.

Petals 8, white or pinkish; fls. 1 in.; interstitical veins springing from the margin . 8. C. Walkeri.

Leaves cuneate at the base:

Infl. exceeding the leaves; petals 4; fruit apiculate; fls. nearly 1 in.; interstitial veins springing from the margin . 9. C. trapezifolium.

Infl. equalling the leaves; petals 4–8; fruit globose; fls. $\frac{3}{4}$ in. interstitial veins inconspicuous . . . . . . 10. C. cuneifolium.

Flower buds densely tomentose; leaves 4–6 in.; flowers 1 in. . . . . 11. C. cordato-oblongum.

*Page* 101.—

C. elatum Vincent Forest Rep. XLIII, pp. 15, 20 (1883) non Wight; ?Bedd. Fl. Sylv. I, t. 2 (1868); ?Gamble Fl. Madr. p. 26 (1915). **Tombu-kata** *T.*

Branches tetragonous or subcylindrical; young parts somewhat tomentose; buds densely tomentose; leaves 5$\frac{1}{2}$–10 in. long, 1–1$\frac{3}{4}$ in. broad, acuminate; apex obtuse; petiole $\frac{1}{4}$–$\frac{1}{2}$ in. long; fruit globose, $\frac{3}{4}$ in. in diam.

Maha-oya E. Prov.; Westminster Abbey; Pasdun Korale; Devilane Forest.

Gamble gives the name of the S. Indian trees as "Katta-pinnei."

*Page* 99.—For *C. spectabile* Willd. read:

3. **C. Soulattri** Burm. f. Fl. Ind. p. 122 (1765). *C. spectabile* Willd. in Mag. Berol. p. 80 (1811). *C. acuminatum* Lamk. Encycl. I, p. 553 (1783).

Valley of Gin-ganga; Kukulu Korale (F. Lewis).

*Page* 99.—For *C. Burmanni* Wight read:

**C. Calaba** Linn. Sp. Pl. p. 514 (1753); Fawc. & Rendle, Fl. Jam. V, 3, p. 200 (1926). *C. Burmanni* Wight Ill. I, p. 129 (1838).

*Page* 100.—

5. **C. pulcherrimum** Wall.
Ellaboda Kande.

*Page* 103.—

9. **C. trapezifolium** Thw.
Maskeliya.
Also in S. India.

*Page* 103.—

10. **C. cuneifolium** Thw.
Madugoda (F. Lewis).

*Page* 104.—

**Kayea stylosa** Thw., **Honakka** S. (F. Lewis).
Maguru-ganga (F. Lewis).

*Page* 112.—

2. **Gordonia speciosa** Choisy.
Bogavantalava (F. Lewis).

For *Camellia Thea* Link. read:

THEA SINENSIS Linn. Sp. Pl. p. 515 (1753); C.P.O. Stuart in De Thee V, pp. 137-8 (1924). *Camellia sinensis* O. Ktze. in Act. Hort. Petrop. X, p. 195 (1887). *Camellia Thea* Link. Enum. Hort. Berol. II, p. 73 (1822). *C. theifera* Griff. Not. IV, p. 558 t. 601 f. 1 (1854).

*Page* 114.—

1. **Dipterocarpus hispidus** Thw.

Stem straight, cylindrical; bark pale greyish.

Abundant Kukulu Korale; Singhe Rajah Forest; parts of Gilimale; Eratne; near Karavita; occasionally in the lower parts of Pasdun Korale, Udugama; Valley of Gin-ganga beyond Deniyaya (F. Lewis).

1. **D. zeylanicus** Thw.

Bark pale brownish flaking off in rather large pieces.

*Page* 115.—

3. **D. scabridus** Thw.

Bark darker than in *D. zeylanicus*, exfoliating in very small pieces; inflorescence a branched, axillary, lax, stellate-

pubescent raceme; shorter than the leaves. Calyx tube funnel shaped, ½ in. long, stellate pubescent, apices obtuse; petals lanceolate-oblong, 1½ in. long, stellate, tapering towards the base, cream coloured with a pink blotch in the centre, silky tomentose; stamens 30; filaments dark brown; connective prolonged in to a long curved process $\frac{2}{10}$ in. long; ovary silky-tomentose, 5 ridged, 3 celled, with 2 ovules in cell. Style 0·5 in. long (Livera in Ann. Perad. ix, p. 92).

Fl. April, cream coloured with pink blotch.
Midellena in Pasdun Korale (F. Lewis).
Mr. Livera evidently saw flowers, but there are none in the herbarium.*

*Page* 115.—

4. **D. glandulosus** Thw.
Fairly common in Kuruvita Korale; Rakvana; part of Balangoda; Bambarabotuva; Kitulgala; Siyane Korale (F. Lewis).

*Page* 116.—

1. **Shorea oblongifolia** Thw. **Dummala,** *S.* (F. Lewis).

Bark brown, flaky.

### 2a. ISOPTERA *Scheff.*

(*Ridleyinda* O. Ktze.).

Large trees; calyx-segments imbricate; petals linear, longer than the calyx-segments; stamens 35; anthers bearded; fruit with spreading coriaceous sepals, the 3 outer slightly larger than the inner, shorter than the fruit.—Sp. 3.

*Page* 118.—For *Shorea lissophylla* Thw. read:

**Isoptera lissophylla** Livera in Ann. Perad. IX, p. 93 (1924).
*Shorea lissophylla* Thw. Enum. p. 402 (1858).

Fruit a nut, ½–¾ in. long, ¼–$\frac{4}{10}$ in. broad, greyish, silky pubescent, not winged, surrounded at the base by the slightly enlarged sepals. Fls. yellow, with a not unpleasant odour.

Kalutara Distr. near Colloden Estate; Yagirella; Levanduva; commonest Dipterocarp. on the banks of the Bentota River (Broun); Vallalavitti Korale; Pasdun Korale; Talpe Pattu; Udugama; Karavita Kande (F. Lewis).

*Page* 118.—

5. **Shorea stipularis** Thw.
Kukulu Korale; Singhe Raja Forest; Rakvana; parts of Bambarabotuva (F. Lewis).

*Page* 119.—

1. **Doona zeylanica** Thw. **Koongili Maram,** *T.* (F. Lewis).

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* Mr. Livera's specimens were discovered after this was written, they belong to a foreign species cultivated at Peradeniya.—A.H.G.A.

*Page* 121.—

3. **D. Gardneri** Thw. Dun. **Koongili,** *T.* (F. Lewis).

Fairly common in the Adam's Peak range as far as Galagama, and in the Panil Pattuva and higher portions of the Navadun and Medā Korales; near Maskeliya; Lower Bulatgama (F. Lewis).

*Page* 121.—

4. **D. nervosa** Thw.

The Udugama specimens have a much elongated fruit and are probably distinct. F. Lewis mentions a tree from Nambapana which may be this.

*Page* 121.—

5. **D. trapezifolia** Thw.

Bark dark.

Called White Doon (Broun).
Kitulgala (F. Lewis).

*Page* 122.—

6. **D. congestiflora** Thw.

Bark rather thick and easily stripped off.

7. **D. cordifolia** Thw. **Koongili,** *T.* (F. Lewis).
Pasdun Korale (Thwaites); Hinidun (Trimen); Ratnapura.

*Page* 123.—

8. **D. ovalifolia** Thw.

Balangoda; Ingiriya, near Labugama; Singhe Raja Forest (F. Lewis).

A plant sent by Broun from Ingiriya Forest looks like a distinct species, but there are no flowers or fruits.

*Page* 123.—

9. **D. oblonga** Thw. **Panamora,** *S.* (F. Lewis).
Udugama (F. Lewis).

10. **D. venulosa** Thw.

Bark smooth, pale, flaking; inflorescence a few-flowered terminal glabrous panicle; flowers $\frac{3}{4}$ in. diam.; sepals glabrous; petals fleshy, oblong, obtuse, glabrous within, adpressed pubescent without; stamens 15; connective prolonged into a club shaped process 0·04 in. long; ovary glabrous ovate; fruit 3 winged.

South of the Island (Thwaites); fls. April, white.

*Page* 124.—

11. **D. macrophylla** Thw.

Bark smooth, pale, flaking.

Miyonaovita; Rambukka (F. Lewis).

F. Lewis gives Kana-beraliya and Maha-beraliya as the Sinhalese names.

*Page* 125.—

1. **Hopea discolor** Thw. **Irredurulla, Durulla,** *S.* (F. Lewis).

Bark brown, thick, furrowed.

Gilimale; Panilla; Valley of Gin-ganga; Rasagala near Balangoda; Nahetti Forest, near Rakvana; Bambarabotuva (F. Lewis).

2. **H. jucunda** Thw.

Enlarged fruit sepals 3 in. long, broadly spathulate, about 9 veined; nut ovate, sharp-pointed almost twice as long as the unenlarged sepals.

*Page* 126.—

3. **H. cordifolia** Trim. **Uva-mendora,** *S.* (F. Lewis).

Flowers about $\frac{2}{10}$ in. diam. in erect axillary panicles; sepals broadly oval, apex acute, slightly pubescent on both surfaces; petals glabrous on the inner surface; stamens 15; connective prolonged into a bristle twice as long as the anthers; ovary minute, glabrous, 3-locular with 2 ovules in each loculus.

Kirinde ganga (Broun & F. Lewis).

For *Sunaptea* Griff. read:

5. **COTYLELOBIUM** *Pierre.*

For *Sunaptea scabriuscula* Trim. read:

**Cotylelobium scabriusculum** Brandis in Journ. Linn. Soc. XXXI, p. 114 (1895). *Dyrella scabriuscula* Heim. in Bull. Soc. Bot. Fr. XXXIX, p. 153 (1892). **Napat-beraliya,** *S.* (F. Lewis).
Botale; Morawak Korale (F. Lewis).

For *Sunaptea disticha* Trim. read:

12. **Doona ?disticha** Pierre Fl. For. Cochinch. sub. t. 237, in obs. (1890). *Sunaptea ?disticha* Trim. Syst. Cat. Ceyl. Fl. p. 91 (1885).
Both Pierre and Brandis consider this a *Doona.*

*Page* 128.—For *Vatica Roxburghiana* Bl. read:

1. **V. chinensis** Linn. Mant. II, p. 242 (1771). *V. Roxburghiana* Bl. Mus. Bot. II, p. 331 (1852).

Bark smooth, pale grey.
Fls. white.

For *Stemonoporus Lewisianus* Trim. read:

2. **Vateria? Lewisiana** (Trim.) *Vatica Lewisiana* Livera in Ann. Perad. IX, p. 97 (1924). *Stemonoporus Lewisianus* Trim. ex Hk. f. in Trim. Fl. Ceyl. V, p. 383 (1900).

Calyx imbricate (?) enlarged in fruit; stamens 15 in 2 rows

anthers dehiscing laterally, apiculate; fruit spherical, densely tomentose, with strongly reflexed, enlarged sepals.

Eratna-Kande (F. Lewis).

This seems not to be a Vatica as thought by Livera, as the fruiting sepals are strongly reflexed, the stamens 25. *Vateria* has been suggested by Trimen in ms. The anther is not typical for *Vateria,* and buds are required to determine the imbrication of the calyx. The fruits at Peradeniya are all galled and cannot be regarded as normal.

*Page* 130.—For *Balonocarpus zeylanicus* Trim. read:

**B. brevipetiolaris** (Thw.) *B. zeylanicus* Trim. in Journ. Bot. XXVII, p. 161 (1889). *Shorea brevipetiolaris* Thw. in Journ. Bot. XXIII, p. 205 (1885).

Flowers shortly pedicellate; calyx glabrous; corolla fleshy, glabrous; stamens 10–15 in 2 rows; connective produced into a long curved process equalling the anther.

*Page* 131.—For *Vateria acuminata* Heyne read:

1. **V. copallifera** (Retz.) *Vateria acuminata* Heyne Arzenik. XI, p. 5 (1830). *Elæocarpus copalliferus* Retz. Obs. IV, p. 27 (1786).

Bark greyish.

*Page* 132.—For *Stemonoporus Wightii* Thw. read:

1. **S. zeylanicus** (Wight) *S. Wightii* Thw. Enum. p. 37 (1858). *Vateria ceylanica* Wight Ill. I, p. 88 (1840).

Ellaboda Kande; Yatipova (F. Lewis).

Fls. March–April.

*Page* 133.—

2. **S. Gardneri** Thw.

Bark pale greyish.

Pettiyagala; Vallankande (F. Lewis).

*Page* 133.—

3. **S. acuminatus** Bedd.

Stem smooth, pale.

West of El-Dorado Estate, Rakvana (F. Lewis).

5. **S. affinis** Thw.

Bark rather dark.

Meriacotta Peak; Bambarabotuva; Atakalan Korale; Rakvana (F. Lewis).

*Page* 135.—

8. **S. petiolaris** Thw.

Fruit ovoid.

Gongalla range (F. Lewis).

*Page* 137.—

13. **S. ?Moonii** Thw.

F. Lewis in the Ceylon Observer states that it is " a small slender stemmed plant growing in ' Waturana ' land at Honakka, Maguruganga Valley, Pasdun Korale."

It is scarcely likely to belong to *Stemonophorus* and may not be a Dipterocarp at all.

*Monoporandra* Thw. is not worth separating from *Stemonoporus* Thw. It has 5 stamens, *Stemonoporus* 15 in the few cases where the flowers are known. The number of stamens varies within the species in some Dipterocarps showing that it is a character of little systematic importance. Both genera were reduced to *Vateria* by Bentham and Hooker, but in that genus the anthers dehisce laterally and not by pores. *S. ?Moonii* Thw. is a very curious plant and should probably form a separate genus.

For *Monoporandra cordifolia* Thw. read:

14. **Stemonoporus cordifolius** (Thw.) *Monoporandra cordifolia* Thw. in Kew Journ. Bot. p. 70 (1854).

*Page* 138.—For *Monoporandra elegans* Thw. read:

15. **S. elegans** (Thw.) *Monoporandra elegans* Thw. in Kew Journ. Bot. VI, p. 69 (1854).

Yakahulu is a general name for Dipterocarps sometimes qualified as Napat-yakahulu and Pulun-yakahulu.

*Page* 139.—For *Ancistrocladus Vahlii* Arn. read:

**A. hamatus** Prain in Ind. Kew, Suppl. III, p. 25 (1908). *Wormia hamata* Vahl in Skrift. Nat. Selsk. Kjob. VI, p. 105 (1810). *A. Vahlii* Arn. in Nov. Act. Cur. XVIII, p. 325 (1836). *A. Thwaitesii* v. Tiegh. in Journ. de Bot. p. 154 (1903).

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*Page* 140.—

## XXII.—MALVACEÆ.

Add to key:

Carp. 1-seeded:
  Ovule ascending; bracteoles 3:
    Stigmas capitate; fls. yellow . . . . *Malvastrum.*
    Stigmas linear; fls. pinkish-purple . . *Malva.*
  Ovule pendulous:
    Carpels not beaked, spreading; fls. purple . *Anoda.*
    Carpels beaked or converging; fls. yellow or white . . . . . . . . 1. SIDA.

Also:

Styles connate:
  Bracteoles small . . . . . . . 9. THESPESIA.
  Bracteoles large . . . . . . . *Gossypium.*

And:

Bracteoles o; pet conspicuous:
Calyx 5-cleft . . . . . . . *Adansonia.*
Calyx truncate:
Stam. numerous; style 5-fid . . . . 10. GOSSAMPINUS.

MALVA *Linn.*

M. PARVIFLORA Linn. Diss. Dem. Pl. Nov.; Amœn. Acad. III, p. 416 (1787); Mast. in Fl. Brit. Ind. I, p. 321 (1875).

A casual (?) in the montane zone. Velimada (1906); Bandaravela (1917).

Native (?) from India to S. Europe.

For *Malvastrum tricuspidatum* A. Gray read:

M. COROMANDELIANUM Garcke in Bonpl. V, p. 297 (1857); Gamble Fl. Madr. p. 88 (1915). *Malva coromandeliana* Linn. Sp. Pl. p. 690 (1753). *Malvastrum tricuspidatum* A. Gray Pl. Wright I, p. 16 (1852).

Plukenet's specimen was not the type as thought by Trimen.

*Page* 141.—For *Sida humilis* Cav. read:

1. **S. veronicæfolia** Lamk. Encycl. I, p. 24 (1783); Gamble Fl. Madr. p. 89 (1915). *S. humilis* Cav. Diss. V, p. 277 (1788).

*Page* 142.—For *S. mysorensis* W. & A. read:

2. **S. racemosa** Burm. f. Fl. Ind. p. 148 (1788); Merr. in Phil. Journ. Sc. XIX, p. 364 (1921). *S. glutinosa* Cav. Diss. I, p. 16 (1785); Gamble l. c. *S. mysorensis* W. & A. Prodr. p. 65 (1834).

*Page* 142.—For *S. spinosa* Linn. read:

3. **S. alba** Linn. Amœn. Acad. V, p. 380 (1760), nomen; Sp. Pl. ed. 2, p. 960 (1763); Fawc. and Rendle Fl. Jam. V, 3, p. 114 (1926). *S. spinosa* Linn. Sp. Pl. p. 683 (1753) pp.

For *Abutilon polyandrum* W. & A. read:

A. PERSICUM Merr. in Phil. Journ. Sci. XIX, p. 304 (1921). *Sida persica* Burm. f. Fl. Ind. t. 476 (1768). *S. polyandra* Roxb. Hort. Beng. p. 50 (1814) nomen; Fl. Ind. III, p. 173 (1832). *Abutilon polyandrum* Schlect. ex Link. Enum. Hort. Berol. II, p. 264 (1822) non G. Don.

The 5 carpels distinguish this from the other species.

*Page* 145.—For *A. graveolens* W. & A. read:

4. **A. hirtum** Sweet Hort. Brit. p. 53 (1827); Merr. Int. Rumph. p. 355 (1917). *Sida hirta* Lamk. Encycl. I, p. 7 (1783). *S. pilosa* L. Hérit. Stirp. p. 130 (1784–5) non *A. pilosum* K. Sch. *S. graveolens* Roxb. Hort. Beng. p. 50 (1814) nomen; DC. Prodr. I, p. 473 (1824). *Abutilon tortuosum* G. & P. Fl. Seneg. I, p. 66 (1830). *A. graveolens* W. & A. Prodr. p. 56 (1834).

*Page* 146.—

3. **WISSADULA** *Medik.*

Pedicels longer than petioles; fls. pale yellow . W. PERIPLOCIFOLIA.
Pedicels shorter than petioles; fls. pure white . *W. contracta.*

For *Wissadula zeylanica* Medik. read:

**W. periplocifolia** Presl. ex Thw. Enum. p. 27 (1858). *Sida periplocifolia* Linn. Sp. Pl. p. 684 (1753). *Wissadula zeylanica* Medik. Malv. p. 25 (1787). *Abutilon periplocifolium* Sweet Hort. Brit. p. 53 (1826).

*Page* 147.—For *W. Leschenaultiana* Mast. read:

W. CONTRACTA R. E. Fries. in Kungl. Sv. Vet. Akad. Hdl. XLIII, p. 60 (1909). *Sida contracta* Link. Enum. Hort. Berol. I, p. 204 (1822). *S. Leschenaultiana* DC. Prodr. I, p. 468 (1824). *Abutilon Leschenaultianum* Sweet Hort. Brit. p. 53 (1826). *Wissadula Leschenaultiana* Mast. in Fl. Brit. Ind. I, p. 325 (1875).

*Page* 148.—For *Pavonia glechomifolia* read:

1. **P. glabra** (R. Br.) *Urena glabra* R. Br. in Salt Abyss. App. p. 65 (1814). *Lebretonia procumbens* Wall. Cat. no. 2688; W. & A. Prodr. p. 47 (1834); A. Rich. Tent. Fl. Abyss. I, p. 54 (1847). *Pavonia procumbens* Walp. Rep. I, p. 501 (1842). *P. glechomifolia* Garcke in Schweinf. Beitr. Fl. Æthiop. p. 54 (1867).

*Page* 152.—For *Hibiscus collinus* Roxb. read:

3. **H. eriocarpus** DC. Prodr. I, p. 452 (1824). *H. acerifolius* DC. l. c. non Salisb. *H. platanifolius* Sweet Hort. Brit. p. 51 (1826). *H. collinus* Roxb. Hort. Beng. p. 51 (1814) nomen; Fl. Ind. III, p. 198 (1832).

*Page* 155.—

9. **H. ficulneus** Linn.
Illuppaikkadawai, near Mannar.

*Page* 156.—

10. **H. Abelmoschus** Linn. **Katuk-kasturi,** *T.* (F. Lewis).

*Page* 157.—For *H. angulosus* Mast. read:

Flowers primrose-yellow; seeds pyriform . 11. H. PRIMULINUS.
Flowers white becoming purple; seeds globose 11a. H. MOLOCHINUS.

11. **H. primulinus** nom. nov.* *H. angulosus* var. *grandiflorus* Thw. Enum. p. 26 (1858).
Between Hakgala and Nuwara Eliya.
11a. **H. molochinus** nom. nov.† *H. angulosus* var. *purpureus* Thw. Enum. p. 26 (1858).

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* Affinis *H. angulosus* Mast. sed floribus multo majoribus differt:—Typus—*Thwaites* C.P. 2567.
† Affinis *H. angulosus* Mast. sed floribus purpurascentibus et folius setosis differt:—Typus—*Thwaites* C.P. 1117.

Nuwara Eliya.
This seems near *H. setinervis* Dunn. but Mr. Fischer of the Kew Herbarium assures me that they are not the same.

*Page* 157.—

12. **H. tiliaceus** Linn. **Nir-paratthi,** *T.* (Gamble).

H. ROSA-SINENSIS Linn. **Sapathu-mal, Wada,** *S.* (Petch).

H. CUPREUS Pampan. in Nuov. Giorn. Bot. Ital. XIV, p. 600 (1907). This was described from a plant in the Florence Botanic Gardens supposed to be from Ceylon. It is said to be allied to *H. Rosa-sinensis.*

H. SABDARIFFA Linn. **Rata-bilinda,** *S.* **Palincha-Kerai,** *T.* Rozelle; cultivated.

*Page* 159.—For *Bombax* Linn. read:

10. **GOSSAMPINUS** *Ham.*

For *B. malbaricum* DC. read:

**Gossampinus malabarica** (DC.) *G. heptaphylla* Bakh. in Ann. Jard. Buit. Sér. 3, VI, p. 189 (1924). *G. rubra* Ham. in Trans. Linn. Soc. XV, p. 128 (1827). *Bombax heptaphylla* Houtt. Nat. Hist. p. 153 (1774) non Linn. *B. malabaricum* DC. Prodr. I, p. 499 (1824). *B. Ceiba* Linn. Sp. Pl. p. 511 (1753) pp.; K. Sch. in Engl. u. Prantl., Nat. Pfl. III, p, 62 (1895). *Salmalia malabarica* Schott and Endl. Melet. Bot. p. 25 (1832).

*Page* 160.—For *Eriodendron* DC. read:

11. **CEIBA** *Plum.*

For *Eriodendron anfractuosum* DC. read:

**Ceiba pentandra** Gaertn. Fruct. II, p. 244 (1791); Bakh. in Ann. Jard. Buit., Sér. 3, VI, p. 194 (1924). *Bombax pentandrum* Linn. Sp. Pl. p. 511 (1753). *Eriodendron pentandrum* Kurz in Journ. As. Soc. Beng. XLIII, p. 113 (1874). *E. anfractuosum* DC. Prodr. I, p. 479 (1824) pp. *Ceiba anfractuosa* Maza Flora de Cuba p. 66 (1914). **Kappu,** *S.* **Panchchi,** *T.* (F. Lewis).
This is strictly speaking the type of *Bombax* Linn., but the American *B. Ceiba* Linn. may be regarded as a substitute type.

*Page* 162.—For *Cullenia* Wight read:

12. **DURIO** *Adans.*

For *C. excelsa* Wight read:

**Durio zeylanicus** Gardn. in Calc. Journ. Nat. Hist. VII, p. 1 (1847); Bakh. in Ann. Jard. Buit., Sér. 3, VI, p. 228 (1924). *Cullenia zeylanica* Wight ex K. Sch. in Engl. u. Prantl. Nat. Pfl. 6, p. 68 (1895). **Mulla-plaka,** *T.* (F. Lewis), **Vedupupla,** *T.* (Gamble).

*Page* 163.—For *Sterculia* L. read:

Seeds not winged:
Follicles woody . . . . . . . . . 1. STERCULIA.
Follicles membranous . . . . . 1a. FIRMIANA.
Seeds winged . . . . . . . . . . 1b. PTERYGOTA.

### 1. STERCULIA *Linn.*

Trees; leaves simple or compound; flowers in axillary racemes or panicles, unisexual or polygamous; calyx 5-fid; pet. 0; stam. combined into a central column, anth. 10–20, sessile, capitate; carp. 4–5, on a gynophore; ovules usually numerous; ripe carp. follicular, woody, sessile or shortly stalked, usually scarlet; seeds black, not winged; usually arillate.—Sp. 100; Tropics.

*Page* 164.—

2. **S. urens** Roxb.
F. Lewis gives *Dadiya* as the Vedda name for this and the locality Panama Pattu.

*Page* 165.—

3. **S. guttata** Roxb. **Kavili, Tondi,** *T.* (F. Lewis).
Mylimalayi, Kottiyar Distr.

### 1a. FIRMIANA *Marsigli.*

Trees; leaves palmately lobed; flowers in terminal racemes or panicles, polygamous; calyx 5-fid.; pet. 0; stam. combined into a central column, anth. about 30; carp. 5, on a gynophore; ovules 2; ripe carp. follicular, membranous, stalked, greenish pink; seeds yellow, not winged.—Sp. 10; Asia.

*Page* 166.—For *Sterculia colorata* Roxb. read:

**Firmiana colorata** R. Br. in Benn. Pl. Jav. Rar. p. 235 (1838–52). *Sterculia colorata* Roxb. Cor. Pl. I, p. 25 t. 25 (1795).

### 1b. PTERYGOTA *Endl.*

Trees; leaves simple; flowers in axillary racemose panicles, unisexual or polygamous; calyx 5-fid.; pet. 0; stam. combined into a central column, anth. 10; carp. 5, on a gynophore; ovules numerous; ripe carp. follicular, woody stalked, brown; seeds winged.—Sp. 4; Tropics.

For *Sterculia Thwaitesii* Mast. read:

**Pterygota Thwaitesii** (Mast.). *P. alata* Thw. Enum. p. 29 (1858) non R. Br. *Sterculia Thwaitesii* Mast. in Fl. Brit. Ind. I, p. 361 (1874). **Etaritiva,** *S.* (Kurunegala), **Gal-nava,** *S.* (F. Lewis, S. of the Island).
Mukana Forest, 19 m. from Puttalam; along the Kurunegala road (Jayewardena); banks of Vallave river from Liangahatota to close to Ambalantota, F. Lewis; N.W. flank of Hundrunda Range (F. Lewis). Common in Bibile distr. where the trees grow to a very large size.

*Page* 168.—

**Helicteres Isora** Linn. **Kawa,** *T.* (Gamble).

*Page* 169.—For *Pterospermum suberifolium* Lamk. read:

**P. canescens** Roxb. Hort. Beng. p. 50 (1814) nomen; Fl. Ind. III, p. 1162 (1852); Hochr. in Ann. Cons. Gen. XXI, p. 433 (1922). *Pentapetes suberifolia* Linn. Sp. Pl. p. 959 (1753). *Pterospermum suberifolium* Lamk. Ill. III, p. 136 (1823) non Willd. *P. Lamarckianum* Hochr. in Bull. Inst. Buit. XIX, p. 21 (1904). ?*P. Burmannianum* Hochr. **Ee,** *S.* **Tada,** *T.* (Gamble).

*Page* 169.—

**Pentapetes phœnicea** Linn. **Bandu-vada,** *S.*

*Page* 170.—

**Melochia corchorifolia** Linn.

*M. concatenata* Linn. Sp. Pl. p. 675 (1753) has page priority and is adopted by some modern authors.

*Page* 171.—

**Waltheria indica** Linn.

*W. americana* Linn. Sp. Pl. p. 673 (1753) has page priority over *W. indica,* but *W. indica* was adopted by Wight and Arnott.

For *Guadzuma tomentosa* H.B.K. read:

G. ULMIFOLIA Lamk. Encycl. III, p. 52 (1789); Fawc. & Rendle Fl. Jam. III, p. 157 (1926). *Theobroma guazuma* Linn. Sp. Pl. p. 782 (1753). *Guazuma tomentosa* H. B. K. nov. gen. and Sp. V, p. 320 (1823). *G. guazuma* Cockerell in Bull. Torr. Bot. Cl. XIX, p. 95 (1892).

*Page* 173.—For *Berrya Ammonilla* Roxb. read:

**B. cordifolia** Burret in Notizbl. Bot. Gard. Berl. IX, p. 606 (1926). *Espera cordifolia* Willd. in Neue Schrift. Nat. Berl. III, p. 449 (1801). *Berrya Ammonilla* Roxb. Hort. Beng. p. 42 (1814) nomen; Cor. Pl. III, p. 60 t. 264 (1819).

*Page* 174.—

2. **Grewia asiatica** Linn.

J. R. Drummond (in Journ. Bot. XLIX, p. 333) considers that *G. asiatica* Linn. is not a native of Asia, and that its native place is unknown.

Also cultivated in India and Mauritius.

*Page* 175.—

3. **G. bracteata** Heyne; Burret in Notizbl. Berl. IX, p. 697 (1926). *G. obtusa* Wall. ex. J. R. Drumm. in Gamble Fl. Madr. I, p. 114 (1915).

J. R. Drummond states that the Fl. Brit. Ind. plant was *G. Wightiana* J. R. Drumm. which is:

G. LÆVIGATA Vahl Symb. I, p. 34 (1790); Burret l. c. 699 (1926) non Auct. *G. Wightiana* J. R. Drumm. l c. p. 114 (1915).

*Page* 175.—

4. **G. diplocarpa** Thw.

J. R. Drummond reduces this to *G. lancæfolia* Roxb. but Burret has reinstated it, including however a S. Indian plant.

G. DAMINE Gaertn. Fruct. II, p. 113 (1791).

The original of this species was from Ceylon. It is referred to *G. salvifolia* Heyne by J. R. Drummond. *G. salvifolia* is not otherwise recorded from Ceylon and I think *G. Damine* is probably *G. tiliæfolia* Vahl.

*Microcos lateriflora* Linn. is the oldest name for *G. tiliæfolia* but is invalidated by *G. lateriflora* G. Don.

*Page* 178.—For *G. populifolia* Vahl read:

10. **G. tenax** Fiori Bos. Piante Legn. Eritrea p. 246 (1909). *G. Chadara* Lamk. Encycl. III, p. 114 (1789). *Chadara tenax* Forsk. Fl. Arg. Arab. p. 114 (1775). *G. populifolia* Vahl Symb. I, p. 33 (1790).

*Page* 179.—For *Triumfetta tomentosa* Boj. read:

1. **T. rectaculeata** nom. nov.* *T. tomentosa* Boj. Hort. Maurit. p. 43 (1837) nomen; in Bouton Rapp. Ann. Maur. p. 19 (1842) non Noronha.

*T. tomentosa* Noronha is an older name for *T. obliqua* Roth or *T. cana* Blume.

*Page* 179.—For *T. rhomboidea* Jacq. read:

3. **T. Bartramia** Linn. Syst. Nat. ed. 10, p. 1044 (1759). *Bartramia indica* Linn. Sp. Pl. p. 389 (1753). ?*T. indica* Lam. Encycl. III, p. 420 (1791). *T. rhomboides* Jacq. Enum. Pl. Carib. p. 22 (1760).

*Page* 181.—For *T. neglecta* W. & A. read:

5. **T. pentandra** A. Rich. in Guill. and Perr. Fl. Seneg. Tent. I, p. 93 t. 19 (1831); Sprague and Hutch. in Journ. Linn. Soc. XXXIX, p. 267 (1909). *T. neglecta* W. & A. Prodr. I, p. 75 (1834).

*Page* 183.—For *Corchorus acutangulus* Lamk. read:

6. **C. aestuans** Linn. Syst. ed. 10, p. 1079 (1759); Fawc. and Rendle Fl. Jam. V, 3, p. 88 (1926). *C. acutangulus* Lamk. Encycl. II, p. 104 (1786).

*Page* 186.—

4. **Elæocarpus montanus** Thw.

Apparently not uncommon; Horton Plains; foot of Pedurutalagala; Haptule.

*Page* 186.—

5. **E. subvillosus** Arn.

Endemic.?

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* Species capsulorum spinis rectis facile distinguitur.—Typus: *Thwaites* C.P. 2902.

*Page* 189.—

6. **E. zeylanicus** Mast.
Kunadiyaparavita (F. Lewis).
There is a very little difference between this species and *E. glandulifer* but the leaves are usually more ovate, thicker, less deeply serrate and the calyx less hairy.

*Page* 190.—

3. **ERYTHROXYLON** *Linn.*

Stipules persistent; tree . . . . . 1. E. MONOGYNUM.
Stipules caducous:
  Leaves more or less acuminate:
    Staminal tube equalling the calyx; lateral veins horizontal:
      Leaves very acuminate, cuneate at the base . . . . . . . 2. E. MOONII.
      Leaves slightly acuminate, abruptly truncate at the base . . . . 3. E. ZEYLANICUM.
    Staminal tube longer than the calyx; lateral veins oblique . . . . 4. E. LANCEOLATUM.
  Leaves rounded at the apex; staminal tube longer than the calyx . . . 5. E. OBTUSIFOLIUM.

*Page* 191.—For *E. lucidum* Moon read:

2. **E. Moonii** Hochr. in Bull. Inst. Bot. Buit. XXII, p. 54 (1905). *E. acuminatum* Walp. Rep. Bot. I, p. 407 (1842) non Ruiz. and Pav. *E. lucidium* Moon Cat. p. 36 (1824) nomen; Trim. Fl. Ceyl. I, p. 191 (1893) pp. non H. B. K. *Sethia acuminata* Arn. in Nova Acta. Acad. Nat. Arn. XVIII, p. 324 (1836); Thw. Enum. p. 54 (1858).
Also in S. India.

3. **E. zeylanicum** O. E. Schulz Erythroxylaceæ in Engl. Pflanzenreich, p. 145 (1901), C.P. 4011.

Shrub 10–12 ft. high, with greyish bark; leaves $1\frac{1}{2}$–$2\frac{1}{2}$ long, $\frac{1}{2}$–$\frac{3}{4}$ in. broad, lanceolate, abruptly cuneate at the base, slightly acuminate, somewhat shining; lateral veins on either side horizontal; petioles $\frac{2}{10}$ in. long; stipules caducous, with 2 setæ at the apex. Flowers solitary; pedicels up to $\frac{1}{2}$ in. long, thin; calyx lobes narrowly lanceolate; epipetalous stamens twice as long as the episepalous; styles connate.

Not uncommon in the dry country; Vaha-kotta (Deschamps 65); Dambulla; Ooma oya; Bibile. Fls. June.
Endemic.
Schulz says that the wood is very hard.

*Page* 193.—For *Hiptage Madablota* Gaertn. read:

**H. benghalensis** Kurz in Journ. As. Soc. Beng. XLII, p. 228 (1873). *Bannisteria benghalensis* Linn. Sp. Pl. p. 427 (1753). *Hiptage Madablota* Gaertn. Fruct. II, p. 169 (1791).

*Page* 194.—

**Tribulus terrestris** Linn. **Gorkatu,** *S.* **Nerungali,** *T.* (F. Lewis).

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*Page* 195.—

## XXVIII.—GERANIACEÆ.

Add to key:

Petals contorted:

Herbs with capsular fruit . . OXALIS & BIOPHYTUM.

Trees with fleshy fruit . . . *Averrhoa.*

### 2. OXALIS *Linn.*

Flowers yellow . . . . . . . 1. O. CORNICULATA.

Flowers pinkish-mauve:

Petiole glabrous; leaf lobes cuneate . 2. *O. latifolia.*

Petiole hairy; leaf lobes rounded . . 3. *O. corymbosa.*

1. **O. corniculata** Linn.; Wilmott in Journ. Bot. LIII, pp. 172-174 (1925). **Puliyari**, *T.* (F. Lewis).

2. O. LATIFOLIA H. B. K. Nov. Gen. and Sp. V, p. 237 t. 467 (1815–25); Petch in Ann. Perad. VII, p. 50 (1919); Calder in Rec. Bot. Surv. Ind. VI, p. 335 t. 8 (1919). *O. violacea* Trim. Hort. Zeyl. p. 13 (1888); Petch in Ann. Perad. V, p. 541 (1914) non Linn. *Ionoxalis latifolia* Rose in Contr. U.S. Nat. Herb. X, p. 113 (1906).

Perennial bulbous herb; leaves all radical, trifoliate; petioles about 9 in., glabrous; leaflets broadly deltoid with cuneate lobes, ½ in. long, 2 in. broad, glabrous; scapes nearly 1 ft. long; infl. umbellate, minutely bracteate; fls. pedicellate; sepals elliptic-oblong, obtuse; petals mauve; stamens 10, cuneate at base; ovary glabrous, 5-celled, with 4 ovules in each cell; styles 5.

Not as common as *O. corymbosa.* Introduced by the Botanic Gardens prior to 1879.

Native of Mexico.

3. O. CORYMBOSA DC. Prodr. I, p. 696 (1824); Petch in Ann. Perad. V, p. 541 (1914); l. c. VII, p. 80 (1919); Calder l. c. p. 337 t. 9. *O. latifolia* Trim. l. c. non H. B. K.; *O. violacea* Trim. Fl. Ceyl. I, p. 997 (1893) non Linn.

Perennial bulbous herb; leaves all radical, trifoliate, stipulate; petioles usually 4–5 in. long, pubescent; leaflets broadly obcordate usually ½–¾ long, pubescent; scapes about 8 in. long; pubescent; cymes umbelliform, with minute bracts; fls. pedicellate; sepals elliptic, acute; petals mauve; stamens 10, united at base; ovary glabrous; styles 5.

Introduced and now common up-country, where it is sometimes called Manickwatte weed. First recorded by Ferguson from Kotmale in 1882.

Native of S. America (Calder).

*Page* 197.—For *Biophytum sensitivum* DC. read:

1. **B. Reinwardtii** Klotzsch, in Peters Moss. Reise, p. 85 (1861-63); Backer Flora van Batavia I, p. 227 (1907). *Oxalis sensitiva* Linn. Sp. Pl. p. 434 (1753) pp. *Biophytum sensitivum* Trim. Fl. Ceyl. I, p. 197 (1893) non DC.

*Page* 200.—

AVERRHOA *Linn.*

Leaflets 2–5 pairs, glabrous and glaucous beneath; fruits with angular lobes . . . 1. *A. Carambola.*
Leaflets 5–17 pairs, pubescent beneath fruits with rounded lobes . . . . . . 2. *A. Bilimbi.*

1. AVERRHOA CARAMBOLA Linn. Sp. Pl. p. 428 (1753) **Tamanta,** *T.*

2. AVERRHOA BILIMBI Linn. l. c. **Bilimbi, Bilim,** *S.* **Bilimbi,** *T.*

*Page* 203.—For *Impatiens glandulifera* Arn. read:

5. **I. taprobanica** Hiern in Journ. Bot. XXXVIII, p. 88 (1900). *I. glandulifera* Arn. in Comp. Bot. Mag. I, p. 322 (1835) non Royle.

*Page* 210.—

18. **I. elongata** Arn.
Kunadiyaparavitta.

19. **I. cornigera** Arn.
Adam's Peak (Arnott).

*Page* 212.—For *Hydrocera angustifolia* Bl. read:

**H. triflora** W. & A. Prodr. p. 140 (1834). *Impatiens triflora* Linn. Sp. Pl. p. 938 (1753). *Hydrocera augustifolia* Bl. Bijdr. p. 241 (1825).

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*Page* 213.—

## XXIX.—RUTACEÆ.

Add to key:

Ovules numerous in each ov.-cell:
Stamens 10–12; leaves pinnate . . . 13. LIMONIA.
Stamens 20–60:
Leaves 1-foliate . . . . . *Citrus.*
Leaves 3-foliate . . . . . *Ægle.*

*Page* 214.—For *Evodia Roxburghiana* Benth. read:

**E. Lunu-ankenda** Merr. in Phil. Journ. Sci. VII, p. 378 (1913). *Fagara Lunu-ankenda* Gaertn. Fruct. I, p. 334 (March? 1788). *F. zeylanica* J. F. Gmel. Syst. p. 258 (May? 1788). *Evodia Roxburghiana* Benth. Fl. Hongk. p. 59 (1861).

2. **ZANTHOXYLUM** *Linn.*

Inflorescence axillary:
Leaflets regularly serrate, elliptic, sessile . 1. Z. TETRASPERMUM.

Leaflets entire or irregularly serrate, obovate elliptic, shortly stalked . . . 2. Z. CAUDATUM.
Inflorescence terminal; leaves entire; thorns on the petiole few or wanting . . . *Z. Limonella.*

**Z. caudatum** sp. nov.*

A large climber; young parts glabrous; branches with numerous hooked prickles; leaves alternate, pinnate, 4–7 in. long; petiole and rachis armed beneath with numerous large prickles; leaflets in 2–4 pairs, and a terminal one shortly stalked, 1–2 in. long, usually entire, obovate-elliptic, abruptly caudate-acuminate at apex; tip emarginate, with a small gland; leaves of young plants over 1 ft. with 5 pairs of leaflets; leaflets oblong, coarsely and irregularly crenate, with prickles in the midrib; flowers in short axillary racemes or clusters.

Low moist country; very rare. Dotalugala Kande, near Eratne, apparently only one large plant.
Endemic. Mr. C. E. C. Fischer of Kew has kindly compared this with the continental species and assures me that it is distinct.

*Page* 215.—For *Z. Rhetsa* DC. read:

Z. LIMONELLA (Dennst.) *Tipalia Limonella* Dennst. Schluess. Hort. Malab. p. 31 (1818). *Fagara Rhetsa* Roxb. Hort. Beng. p. 11 (1814) nomen; Fl. Ind. I, p. 417 (1820). *Zanthoxylon Rhetsa* DC. Prodr. I, p. 728 (1824).

For *Toddalia aculeata* Pers. read:

**T. asiatica** Lamk. Ill. II, p. 117 (1793). *Paullinia asiatica* Linn. Sp. Pl. p. 365 (1753). *Toddalia aculeata* Pers. Syn. I, 249 (1805).

*Page* 216.—For *Acronychia laurifolia* Bl. read:

**A. pedunculata** Miq. Fl. Ind. Bat. Suppl. p. 532 (1860). *Jambolifera pedunculata* Linn. Sp. Pl. p. 349 (1753). *Acronychia laurifolia* Bl. Bijdr. p. 245 (1825). **Mutta, Nari,** *T.* (Gamble).

*Page* 218.—For *Micromelum pubescens* Bl. read:

**M. minutum** W. & A. Prodr. p. 448 (1834). *Limonia minuta* Forst. f. Prodr. p. 33 (1786). *Aulacia falcata* Lour. Fl. Cochinch. p. 273 (1790); S. Moore in Journ. Bot. LXIII, p. 282. *Micromelum pubescens* Bl. Bijdr. I, p. 137 (1825). *M. ceylanicum* Wight Ill. I, p. 109 (1840) obs.

*Page* 219.—For *Murraya exotica* Linn. read:

**M. paniculata** Jack. in Malay Misc. I, p. 31 (1820). *Chalcas paniculata* Linn. Mant. I, p. 68 (1767). *Murraya exotica* Linn. l. c. II, p. 563 (1771). **Konji,** *T.* (F. Lewis).

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* Affinis *Z. tetraspermi* W. & A. foliolis integris, minoribus, breviter petiolatis differt.—Typus—*J. M. Silva* 128.

*Page* 220.—

**M. Koenigii** Spreng.
Lower part of the valley of the Vallava River (F. Lewis).

*Page* 221.—

8. **CLAUSENA** *Burm.*

| | |
|---|---|
| Flowers in axillary racemes, 4-merous . | 1. C. DENTATA. |
| Flowers in terminal panicles: | |
| Flowers $\frac{1}{6}$ in.; ovary glabrous . . . | 2. C. INDICA. |
| Flowers $\frac{1}{3}$ in.; ovary hirsute . . . | *C. lansium.* |

*Page* 222.—For *C. Willdenowii* W. & A. read:

1. **C. dentata** M. Roem. Syn. Hesp. p. 44 (1846). *Amyris dentata* Willd. Sp. Pl. II, p. 337 (1799). *Clausena Willdenowii* W. & A. Prodr. p. 96 (1834). **Petti,** *T.* (Gamble).
Hakkinda; Bibile.
Also in India and the Moluccas.

C. LANSIUM Skeels in U.S. Dept. Agric. Bur. Fl. Ind. Bull. 168, p. 31 (1909). *Cookia punctata* Sonn. Voy. Ind. III, p. 258 t. 13 (1782). *Quinaria lansium* Lour. Fl. Cochinch. p. 272 (1790). *Cookia Wampi* Blanco Fl. Filip. p. 358 (1837). *Clausena Wampi* Oliv. in Journ. Linn. Soc. V, Suppl. II, p. 34 (1861). *C. punctata* Rehder and Wilson in Sargent, Pl. Wils. II, p. 140 (1914) non W. & A. **Rata-kara-pincha,** *S.*
Sometimes cultivated for its fruit.

*Page* 222.—For *Limonia* Linn. read:

**HESPERETHUSA** *M. Roem.*

(*Limonia* Auct. non Linn.)

*Page* 223.—For *Limonia alata* W. & A. read:

1. **Hesperethusa alata** (W. & A.) *Limonia alata* W. & A. Prodr. p. 92 (1834).

For *Limonia crenulata* Roxb. read:

2. **Hesperethusa crenulata** M. Roem. Syn. Hesp. p. 38 (1846). *Limonia crenulata* Roxb. Cor. Pl. I, p. 60 (1795).

*Page* 224.—For *Luvunga eleutherandra* Dalz. read:

**L. sarmentosa** Kurz, in Journ. As. Soc. Beng. XXXIX, p. 69 (1870). *Triphasia sarmentosa* Bl. Bijdr. I, p. 132 (1825). *L. eleutherandra* Dalz. in Kew Journ. Bot. II, p. 258 (1850).

*Page* 225.—

The plant considered to be an undescribed species of *Paramignya* was *Olax Wightiana* Wall.

*Page* 226.—For *Atalantia monophylla* Correa read:

**A. spinosa** (Willd.) *Trichilia spinosa* Willd. Sp. Pl. p. 554 (1799). *A. monophylla* Correa in Ann. Mus. Par. VI, p. 383 (1804). **Apasu,** *S.* (F. Lewis) **Katta-naragam,** *T.* (Gamble).

*Page 228.*— CITRUS *Linn.*

Flowers normally 4-petalled, purplish; fruit small; rind closely adhering, green or greenish-yellow; seeds white when cut; shrubs or small trees:
- Petiole usually as large as, or larger than the leaf-blade; fruit with terminal nipple; rind thick, warted . 1. *C. Hystrix.*
- Petiole much smaller than the leaf-blade; rind thin, smooth . . . 2. *C. aurantifolia.*

Flowers normally 5-petalled:
- Rind closely adhering:
  - Seeds white when cut; robust trees:
    - Fruits ellipsoid; more or less furrowed and warted; lemon yellow:
      - Petiole broadly margined . . 3. *C. megaloxylocarpa.*
      - Petiole naked or scarcely margined:
        - Rind thick . . . . . 4. *C. medica.*
        - Rind thin . . . . . 5. *C. Limonium.*
    - Fruit globose or pyriform, smooth:
      - Fruit pale lemon yellow or pale green: (sometimes flushed with red) 4–10 in. diam.; petioles usually broadly winged . . 6. *C. maxima.*
      - Fruit orange coloured; 2–4 in. diam.:
        - Fruit permanently sour; spines usually large; petioles usually winged . . . . . . 7. *C. Aurantium.*
        - Fruit ultimately sweet; spines very small; petioles usually margined . . . . . . 8. *C. sinensis.*
  - Seeds green when cut; shrub; fruit globose or pyriform, greenish-yellow or orange-red $\frac{3}{4}$–2 in. diam., sour; rind thin . . . . . . . 9. *C. japonica.*
- Rind loosely adhering; seeds green when cut; slender trees; fruit 2–3$\frac{1}{4}$ in. diam.
  - Fruit depressed globose . . . 10. *C. crenatifolia.*
  - Fruit pyriform . . . . . 11. *C. papillaris.*

1. C. HYSTRIX DC. Cat. Hort. Monsp. p. 97 (1813); Trimen Fl. Ceyl. I, p. 228 (1893); Lush. in Ind. For. XXXVI, p. 341 (1910). *C. acida β* Moon Cat. p. 56 (1824). *C. tuberoides* J. W. Bennett Rare Fruits of Ceylon. t. (1842).

Bonavia Oranges and Lemon t. CCXXV; Rumph. Herb. Amb. II, tt. 26 f. 14, 27.

**Kudalu-dehi, Lima, Gada-dehi,** *S.* **Leech** or **Caffre Lime.**

Not eaten but used for washing the hair and rubbing on the legs to keep off leeches.

Perhaps native.

2. C. AURANTIFOLIA Swingle in Journ. Wash. Acad. Sc. III, p. 465

(1913). *Limonia aurantifolia* Christm. Pflanzenreich syst. I, p. 618 (1777). *Citrus acida* Roxb. Fl. Ind. ed. 2, III, p. 390 (1832); Lush. l. c. p. 341. *C. acida* Moon l. c. *C. medica* var. *acris* Martyn in Mill. Gard. Dict. ed. IX (1807). *C. medica* var. *acida* Brandis For. Fl. p. 52 (1874).

Bonavia l. c. t. CCXXXI.

**Dehi, Hin-dehi,** *S.* **Desi-kai,** (*Indian*) *T.* **Eli-michum-pallam** (*Jaffna*) *T.*

Var.?

Bonavia l. c. t. CCXXXII.

**Udu-dehi,** *S.*

Used for hair scrubbing.

Native of India?

3. C. MEGALOXYLOCARPA Lush. l. c. p. 345 var. PENNIVESCULATA Lush.

Bonavia l. c. tt. CCXI, CCXII.

**Natrun.** *S.* also **Siderun** (?wrongly).

4. C. MEDICA Linn. Sp. Pl. p. 782 (1753); Lush. l. c. p. 352. *C. medica β* Moon l. c. *C. aurantium* var. *medica* W. & A. Prodr. p. 98 (1834).

Bonavia l. c. t. CLI.

**Siderun, Maha-rata-dehi,** *S.* **Natron** (?wrongly), **Citron.**

Native of India or farther east.

5. C. LIMONIUM Risso. l. c. p. 201; Lush. l. c. p. 347, *C. medica* var. *limon* Linn. Sp. Pl. ed. 2, p. 1101 (1762).

Native of Asia.

6. C. MAXIMA Merr. Interp. Rumph. p. 296 (1918). *Aurantium maximum* Burm. ex. Rumph. Herb. Amb. Auctuarium Ind. Univ. p. 16 (1755). *Citrus grandis* Osbeck Dagbok Ostind. Resa p. 98 (1757). *C. Aurantium* var. *grandis* Linn. Sp. Pl. p. 783 (1753) var. *decumana* Lour. l. c. ed. 2, p. 1110, *C. decumana* Linn. Syst. ed. XII, p. 508 (1767); Lush. l. c. p. 349; Moon l. c.

Bonavia l. c. tt. LXXV, LXXVI, LXXXV.

**Jambola, Jambu Narun; Rata, Sudu** or **Ela Jambola,** *S.* **Pummelo** or **Shaddock.**

Native of Polynesia and the Malay Islands.

Var. UVACARPA. *C. paradisi* Macf. **Grape fruit.**

Native of S.E. China, or may have originated as a seedling sport in the West Indies.

7. C. AURANTIUM Linn. Sp. Pl. p. 783 (1753); Moon l. c.; Hume Citrus Fruits p. 21 (1926). *C. florida* Salisb. Prodr. p. 378 (1796). C. BUXIFOLIA Poir. in Lamk. Encycl. IV, p. 580 (1796). *C. vulgaris* Risso in Ann. Mus. Par. XX, p. 190 (1813); Wight Ic. t. 957. *C. Aurantium* var. *Bigaradia* Brandis l. c. p. 53. *C. Bigaradia* Loisel. in Duham. Arb. ed. 2, VII, p. 99 (1819); Lush. l. c. p. 345.

Bonavia l. c. tt. VI, VII.

**Embul-dodan,** *S.* **Seville** or **Sour Orange.**

Probably a native of Cochin China.

8. C. SINENSIS Osbeck Dagbok Ostind. Resa p. 41 (1775); Hume l. c. p. 22. *C. Aurantium* var. *sinsensis* Linn. Sp. Pl. p. 783 (1783). *C. Aurantium β* Moon l. c. *C. Aurantium* Lush. l. c. p. 352.

Bonavia l. c. tt. XLII, LVI.

**Peni-dodan, Punchi-Jambola,** *S.* **Orange.**
Native of China or Cochin China.

9. C. JAPONICA Thunb.; Lush. l. c. p. 342. ?*C. mitis* Blanco Fl. Filip. p. 610 (1837); Wester in Phil. Sc. Agr. Rev. X, p. 106 t. 6 (1917). *C. nobilis* var. *microcarpa* Hassk. Cat. Hort. Bog. p. 12 (1844).
Var. LAKKANOVENSIS Lush. l. c.
Bonavia l. c. t. XCVI.
**Nas-narun,** *S.* or sometimes, wrongly (?) **Udu-dehi,** *S.*

10. C. CRENATIFOLIA Lush. l. c. p. 343.
**Narun,** *S.* (Colombo wrongly?) **Mandarin** (Colombo).
Var. LYCOPERSICÆFORMIS Lush. l. c. **Hin-narun,** *S.* (Kandy).
Bonavia l. c. t. CXXI.
Native of India?

11. C. PAPILLARIS Blanco Fl. Filip. p. 610 (1837). *C. nobilis* var. *melanocarpa* Hassk. Cat. Hort. Bog. p. 217 (1844). *C. chrysocarpa* var. *melanocarpa* Lush. l. c. p. 344. *C. nobilis* var. *papillaris* Wester l. c. p. 11 t. 11b.
Bonavia l. c. t. CI; Phil. Bureau Agric. Bull. no. 27 t. XV.
**Konda-narun,** *S.* "Mandarin orange" of Ceylon.
Var. CHRYSOCARPA (Lush.). *C. chrysocarpa* Lush. l. c. p. 344. *C. nobilis* Moon l. c. non Lour.
Bonavia l. c. t. CVIII.
**Java-narun, Jambu-narun,** *S.*

Leaves narrower at the base; fruit orange yellow.

Native of India.

*Page* 228.—For *Feronia* Correa read:

13. **LIMONIA** *Linn.*

For *Feronia elephantum* Correa read:

**Limonia acidissima** Linn. Sp. Pl. ed. II, p. 554 (1762), excl. syn. Rheede. *Schinus limonia* Linn. Sp. Pl. p. 389 (1753). *Feronia elephantum* Correa in Trans. Linn. Soc. V, p. 225 (1800). *F. limonia* Swingle in Journ. Wast. Acad. Sc. IV, p. 328 (1914).

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*Page* 229.—

## XXX.—SIMARUBACEÆ.

Ovules solitary in each cell:
  Leaves pinnate; fls. small:
    Fruit samaroid; styles connate . . . . 1. AILANTHUS.
    Fruit baccate; styles nearly free . . . 1a. *Brucea.*
  Leaves simple; fls. large; styles connate . . 2. SAMADERA.
Ovules 2 in each cell; styles distinct; leaves simple 3. SURIANA.

*Page* 230.—For *Ailanthus malabarica* DC. read:

**A. triphysa** (Dennst.) *Adenanthera triphysa* Dennst. Schluess. Hort. Malab. p. 32 (1818). *Ailanthus malabarica* DC. Prodr. II, p. 89 (1825). **Peru,** *T.* (Gamble).

Kegalle distr. valley of the Maha-oya about Rambukkana (F. Lewis).

1a. Brucea *Mill.*

A shrub; leaves large, pinnate; fl. in very small cymes, collected into axillary panicles; calyx deeply 4-lobed, imbricate; disk 4-lobed; stamens 4, inserted below the disk; ovary 4-celled, with pendulous ovules in each cell; seed exalbuminous.—Sp. 10.

*Page* 231.—For *B. sumatrana* Roxb. read:

B. amarissima Desv. ex Gomes in Mem. Acad. Sc. Lisb. n. s. IV, p. 30 (1872). *Gonus amarissima* Lour. Fl. Cochinch. p. 658 (1790). *Brucea sumatrana* Roxb. Hort. Beng. p. 12 (1814). **Tittakohomba,** *S.* (F. Lewis).

A shrub; densely yellow pubescent; leaves large, often more than 1 ft. long, pinnate; leaflets subopposite, ovate, 4½ in. long, 2 in. broad, acuminate, rounded at the base, coarsely crenate-dentate, shortly petioled; panicles axillary, pubescent, shorter than the leaves; fls. minute, usually hermaphrodite, pedicellate; calyx minute; petals linear-spathulate, larger than the calyx segments; stamens not exceeding the petals; filaments glabrous; drupes $\frac{1}{6}$ in., globose, glabrous, black.

Low country; common in some places, but not native. Kandy; Kegalle distr.; Negombo. Fl. March.
Native of the East Indies.

For *Ochna Wightiana* Wall. var. *Moonii* Trim. read:

2a. **O. Moonii** Thw. Enum. p. 70 (1858). *O. Wightiana* var. *Moonii* Trim. Fl. Ceyl. I, p. 234 (1893). *Polythecium Moonii* v. T. in Ann. Sc. Nat. Sér. 8, XVI, p. 369 (1902).

Van Tieghem has described many new genera and species of Ochnaceæ such as *Pleopetalum Leschenaultii, P. lucidum, Discladium squarrosum, D. lucidum, D. nitidum, D. Planchonii, Polythecium Thwaitesii, P. cordatum, P. rufescens, P. nitidum, Diporidium cordatum, D. Wightianum, D. Walkerii,* and *D. rufescens* most of which are reducible to synonyms.

*Page* 234.—For *Gomphia* Schreb. read:

2. **OURATEA** *Aubl.*

**Ouratea zeylanica** (Lamk.) *Ochna zeylanica* Lamk. Encycl. IV, p. 512 (1783). *Meesia serrata* Gaertn. Fruct. I, p. 344 (1788). *Gomphia angustifolia* Vahl Symb. II, p. 49 (1791). *Ouratea angustifolia* Baill. ex. Laness. Pl. Util. Colon. Franç. p. 667 (1886). *Campylospermum angustifolium* v. T. in Journ. de Bot. p. 197 (1902). *C. Leschenaultii* v. T. in Bull. Mus. Bot. p. 96 (1903). *C. nodosum* v. T. l. c. p. 77. *C. Thwaitesii* v. T. l. c. p. 77. *C. Walkerii* v. T. l. c. p. 76. *C. zeylanicum* v. T. l. c. p. 77. **Ramanchi,** *T.* (Gamble).

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## XXXII.—BURSERACEÆ.

Stamens more than 5:
  Fls. in dichotomous cymes; stamens 8 (or 10);
    fruit a drupe . . . . . . . 1. COMMIPHORA.
  Fls. in panicles:
    Stamens 10:
      Fruit dehiscent . . . . . . *Boswellia.*
      Fruit a drupe . . . . . . 1a. SCUTINANTHE.
    Stamens 6; fruit a drupe . . . . 2. CANARIUM.
    Stamens 5 . . . . . . . 3. FILICIUM.

*Page* 236.—For *Balsamodendron* Kunth. read:

### 1. COMMIPHORA *Jacq.*

For *Balsamodendron caudatum* March. read:

1. **Commiphora caudata** Engl. in Mon. Phan. IV, p. 28 (1883). *Protium caudatum* W. & A. Prodr. p. 176 no. 1 (1884). *P. Roxburghiana* W. & A. l. c. no. 2. *Balsamodendron caudatum* March. in Adansonia VII, p. 266 (1867).

*Page* 237.—For *Balsamodendron Berryi* Arn. read:

2. **Commiphora Berryi** Engl. in Mon. Phan. IV, p. 17 (1883). *Balsamodendron Berryi* Arn. in Ann. Nat. Hist. III, p. 56 (1839).

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### BOSWELLIA *Roxb.*

B. GLABRA Roxb. Hort. Beng. p. 90 (1814); Cor. Pl. III, t. 207 (1819); Gamble Fl. Madr. p. 168 (1915); *B. serrata* var. *glabra* Benn. in Fl. Brit. Ind. I, p. 528 (1875); Engl. in DC. Mon. Phan. IV, p. 32 (1883). *Chloroxylon Dupada* Ham. in Journ. Mys. I, p. 184 (?). **Kungli, Guguli,** *T.* (Gamble).
  Native of India.

For *Canarium* Linn. read:

Flowers 5-merous; ov. 2-celled . . . . . 2. SCUTINANTHE.
Flowers 3-merous; ov. 3-celled . . . . 2a. CANARIUM.

### 2. SCUTINANTHE *Thw.*

Large trees; leaves imparipinnate, exstipulate; flowers unisexual, in panicles; calyx 5-lobed, valvate; disk lining the cal.-tube; petals 5; stamens 10; ovary 2-celled, with 2 ovules in each cell; fruit a drupe, epicarp leathery, stone hard, 1-celled, surrounded by a watery pulp; seed solitary, with large much folded and crumpled cotyledons.—Sp. 1; Ceylon.

For *Canarium brunneum* Bedd. read:

**Scutinanthe brunnea** Thw. in Kew Journ. Bot. VIII, p. 266 (1856). *Canarium brunneum* Bedd. Fl. Syl. t. 127 (1868); Engl. in DC. Mon. Phan. II, p. 105 (1883).
Kitulgala (F. Lewis).

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2a. **CANARIUM** *Linn.*

Large trees; leaves imparipinnate, stipulate; flowers unisexual, in panicles; calyx 3-lobed, valvate; disk lining the cal.-tube; petals 3; stamens 6; ovary 3-celled, with 2 ovules in each cell; fruit a drupe, epicarp fleshy; stone hard, 3-celled, not surrounded by a watery pulp; seeds 2, with large much folded cotyledons.—Sp. 80; Trop. Asia & Arica.

Calyx ferrugineous pubescent . . . . . C. ZEYLANICUM.
Calyx grey pubescent . . . . . . *C. commune.*

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**C. zeylanicum** Blume **Dik-kekuna,** *S.* (F. Lewis).

**Filicium decipiens** Thw. **Chittiraivempu, Ningal,** *T.* (Gamble).

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## XXXIII.—MELIACEÆ.

- Seeds not winged:
  - Ovules 1–2 in. each cell:
    - Fil. connate with a tube:
      - Pet. connate, and adnate to stam.-tube . 1. MUNRONIA.
      - Pet. distinct and free:
        - Leaves compound:
          - Fruit indehiscent:
            - Fruit a drupe:
              - Stone 2–5 celled . . . . 2. MELIA.
              - Stone 1 celled . . . . 3. AZADIRACHTA.
            - Fruit a berry:
              - Leaves pinnate:
                - Fls. bisexual . . . . 4. CIPADESSA.
                - Fls. polygamous . . . 5. AGLAIA.
              - Leaves trifoliate . . . . *Sandoricum.*
          - Fruit dihiscent:
            - Pet. 4: . . . . . . .
              - Disk tubular-cup-shaped . . 6. DYSOXYLON.
              - Disk wanting . . . . 7. PSEUDOCARAPA.
            - Pet. 3 . . . . . . . 8. AMOORA.
        - Leaves simple . . . . . . . *Turræa.*
    - Fil. nearly free . . . . . . . 9. WALSURA.
  - Ovules several in each cell; fruit very large . 10. CARAPA.
- Seeds winged; fruit dehiscent:
  - Filaments connate into a tube:
    - Ovary 3-celled; staminal tube cylindrical . 11. CHUKRASSIA.

| | |
|---|---|
| Ovary 5-celled; staminal tube cup-shaped: | |
| Disk wanting . . . . . . | *Soymida.* |
| Disk present . . . . . . | *Swietenia.* |
| Filaments distinct: | |
| Capsule loculicidal . . . . . | 12. CHLOROXYLON. |
| Capsule septicidal . . . . . . | *Cedrela.* |

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2. **MELIA** *Linn.*

| | |
|---|---|
| Anthers exceeding the laciniæ of the white staminal tube; drupe 1–1½ in. long . . . . . | M. COMPOSITA. |
| Anthers nearly equalling the laciniæ of the purple staminal tube; drupe ½ in. long . . . . | *M. Azedarach.* |

For *M. dubia* Cav. read:

**M. composita** Willd. Sp. Pl. II, p. 559 (1799); Gamble Fl. Madr. p. 176 (1915). *M. dubia* Trim. Fl. Ceyl. I, p. 243 (1893) non Cav. **Val-koli-omba**, *S.* (F. Lewis) **Mallay-vempu**, *T.* (Gamble).

M. AZEDARCH Linn. Sp. Pl. p. 384 (1753); C. DC. Mon. Phan. I, p. 451 (1878). **Mallay-vempu,** *T.* (Gamble).

*Page* 245.—For *Cipadessa fruticosa* Bl. read:

**C. baccifera** Miq. in Ann. Mus. Lugd. Bot. IV, p. 6 (1863). *Melia baccifera* Roth Nov. Sp. p. 215 (1821). *C. fruticosa* Bl. Bijdr. p. 162 (1825). **Pulippan-cheddi,** *T.* (Gamble).

1. **Aglaia apiocarpa** Hiern.
The Nitre Cave and Adam's Peak plants are probably *A. Bourdillonii* Gamble, which seems scarcely worth distinction. If it should prove to be *A. odoratissima* Bl. it should take that name.

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2. **A. Roxburghiana** Miq. **Chokkala,** *T.* (Gamble).

SANDORICUM *Cav.*

S. INDICUM Cav. Diss. IV, p. 359 (1787); C. DC. Mon. Phan. I, p. 461 (1878); Ridl. in Journ. Bot. LX, 273 (1922); LXI, p. 200 (1923). *S. Koetjape* Merr. in Phil. Journ. Sc. Bot. VII, p. 237 (1912); in Journ. Bot. LXI, pp. 172-4 (1923). ?*Melia Koetjape* Burm. f. Fl. Ind. p. 101 (1768).
Occasionally cultivated for its fruit.

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10. **CARAPA** *Aubl.*

| | |
|---|---|
| Leaves obovate rounded at the apex . . | 1. C. GRANATA. |
| Leaves ovate, acuminate . . . . | 2. C. MOLUCCENSIS. |

For *C. moluccensis* Linn. read:

1. **C. granata** (Koen.) *Xylocarpus granatum* Koen. in Naturf. XX, p. 2 (1784). *C. moluccensis* Lamk. Encycl. I, p. 621 (1785) pp.; Trim. Fl. Ceyl. II, p. 251. *C. obovata* Bl. Bijdr. p. 179 (1825). **Kandal-anga, Somuntheri,** *T.* (Gamble).

2. **C. moluccensis** Lamk. Encycl. I, p. 621 (1785) pp. non Trim.

*C. Rumphii* Kostel. Allg. Med. Pharm. Fl. V, p. 1988 (1836). *Xylocarpus moluccensis* M. Roem. Syn. Herp. p. 124 (1846). **Kontali,** *T.*

A small tree, similar to *C. granata;* leaflets 2 pairs, shortly stalked, opposite, shining, bright pale green, ovate; midrib yellow; nerves closely reticulate conspicuous beneath; fls. not seen; fruit large, obtusely 4 angled, 4 in. diam.

Mangrove swamps; rare. Puttalam, where it was first found by the Plant Collector (J. M. Silva) in 1926.
Tropical shores of the Old World.

For *Chickrassia* A. Juss. read:

**CHUKRASIA** *A. Juss.*

Leaflets tomentose beneath; petals 4; stamens 8 . 1. C. VELUTINA.
Leaflets glabrous; petals 5; stamens 10 . . . 2. C. TABULARIS.

**C. velutina** W. & A. Prodr. p. 123 (1834); Roem. Syn. I, p. 135 (1846); Livera in Ann. Perad. IX, p. 308. *C. tabularis* Trim. Fl. Ceyl. I, p. 252 (1893) non A. Juss. *Swietenia villosa* Wall. Cat. ?*S. velutina* Wall. Cat.

Polonnaruva.
Livera states that it has 8–10 pairs of leaflets but there are only 5–6 pairs in the specimens at Peradeniya. He also states that the panicles are less than ½ the length of the leaf which is not the case.
Also in India.

2. **C. tabularis** A. Juss. in Mem. Mus. Par. XIX, p. 251 (1830) non Trim.; Livera l. c. *C. triocularis* Roem. l. c. *Swietenia chickrassia* Roxb. Fl. Ind. II, p. 399 (1824). *S. trilocularis* G. Don Gen. Syst. IV, p. 628 (1831).

A large tree; bark brown, rough; young parts glabrous; leaves pinnate; rachis usually about 9–10 in. cylindrical, glabrous; leaflets 6–12 usually 10, stalked, alternate; lamina 2–4 in., ovate, very unequal-sided, more acuminate than in *C. velutina;* apex acute; flowers about ¾ in. in diameter, pedicellate, in large terminal panicles, about ½ as long as the leaves; calyx lobes 5, microscopically puberulous; petals 5 elongate-oblong, stamens 10. Fruit not seen.

Hakkinda. Fls. May.
Also in S. India.
Willis notes under *C. velutina* (*C. tabularis* Auct. non A. Juss.) R. Anderson sent a specimen from Matale with glabrous leaves. This specimen is not in the Herbarium but this is evidently the species intended.

SOYMIDA *A. Juss.*

S. FEBRIFUGA A. Juss. in Mem. Mus. Par. XIX, p. 99 (1830). **Shem,** *T.* (Gamble).

SWIETENIA *Linn.*

S. MACROPHYLLA King in Hk. Ic. XVI, t. 1550 (1886).

Planted about Kandy, Kurunegala and Gampola.
Native of Honduras.

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**Chloroxylon Swietenia** DC. **Purush,** *T.* (Gamble).

CEDRELA *Linn.*

Staminodes wanting; leaflets entire . . . . . *C. Toona.*
Staminodes present; leaflets serrate . . . . . *C. serrata.*

C. TOONA Roxb. ex. Rottl. et Willd. in Ges. Naturf. Fr. Neue Schr. IV, p. 198 (1803); C. DC. in Rec. Bot. Surv. Ind. III, p. 364 (1908). *Toona ciliata* Roen. Syn. p. 139 (1847). **Santhana vembu, Thevatharam,** *T.* (Gamble).

C. SERRATA Royle Ill. p. 144 (1833–44); C. DC. l. c. p. 361. *Toona serrata* Roem. Syn. p. 139 (1847).

*Page* 254.—For *Chailletia* DC. read:

**DICHAPETALUM** *Thou.*

For *Chailletia sumatrana* Miq. read:

Leaves coriaceous . . . . . . 1. D. GELONIOIDES.
Leaves membranaceous . . . . . 2. D. HELFERIANUM.

1. **Dichapetalum gelonioides** Engl. in Engl. u. Prantl. Nat. Pfl. III, IV, p. 348 (1897). *Moacurra gelonioides* Roxb. Fl. Ind. II, p. 70 (1824). *Chailletia gelonioides* Hk. f. Fl. Brit. Ind. I, p. 570 (1872). *C. sumatrana* Trim. Fl. Ceyl. I, p. 54 (1893) non Miq.

Shrub; young parts somewhat pubescent; twigs reddish; leaves 2½–4 in. obovate-elliptic, entire, tapering at the base, acuminate, rather thick, with numerous prominent veins beneath, drying yellowish-green; fl. small, shortly pedicellate, 2 or 3 together; sepals obtuse, pubescent; petals almost twice as long as the sepals, bifid; ovary tomentose; fruit ½ in., 2 valved, orbicular.

Low country; rather common. Fl. March.
Hantane; Kalutara; Hevesse; Ambagamuva.
Also in India.
According to Kurz, Journ. As. Soc. p. 150, *D. sumatranum* (*C. sumatrana* Miq.) is quite different, and has much smaller fruits.

2. **D. Helferianum** Pierre. Fl. For. Cochinch. t. 48 (1880–97). *Chailletia Helferiana* Kurz, in Journ. As. Soc. Beng. XLI, p. 297 (1872).

As *D. gelonioides* but leaves 3½–5 in. long cuneate at the base, rather thin veins less prominent, drying brown; fls. subsessile in larger cluster; fruit larger ovate-orbicular.

Low country. Ambagamuva; Titta veraluva Kotha; Morove Korale. Fl. Feb. March.
Also in Burma and Malaya.
This was determined by Kew as *D. Helferianum,* but it does not agree well with the description.

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2. **Olax Wightiana** Wall.
Madola; Maha-Illuppallama.

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3. **O. zeylanica** Linn.
Also in S. India.

*Page* 260.—

**Lasianthera apicalis** Thw.
Valley of Kaluganga; Kitulgala (F. Lewis).
Endemic.

For *Gomphandra* Wall. read:

7. **STEMONURUS** *Blume.*

For *Gomphandra axillaris* Wall. read:

1. **Stemonurus tetrandrus** (Wall.) *Lasianthera tetradra* Wall. ex Roxb. Fl. Ind. ed. 2, II, p. 327 (1832). *Platea axillaris* Thw. Enum. p. 44 (1888). *Gomphandra axillaris* Wall. Cat. no. 3718 (1828) name only; Bedd. Fl. Sylv. LXI (1869).

For *Gomphandra coriacea* Wt. read:

2. **Stemonurus coriaceus** Miers Contrib. I, p. 87 (1857–71). *Gomphandra coriacea* Wight Ill. IV, p. 103 (1840).

S. PUNCTATUS Becc. in Malesia I, p. 116 (1877) in obs. was probably not from Ceylon.

*Page* 265.—For *Ilex Wightiana* Wall. read:

3. **I. zeylanica** Maxim. in Mem. Acad. Petersb. XXIX, p. 24 (1881). *I. Wightiana* Trim. Fl. Ceyl. I, p. 265 (1893) non Wall. *I. Wightiana* var. *zeylanica* Hk. f. Fl. Brit. Ind. p. 603 (1875).
Pasdun Korale, near Atveltota (F. Lewis).
Endemic.

I. THWAITESII Loes. is probably only a form of *I. Walkeri* Wight & Gardn.

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**Euonymus revolutus** Wight.
Namanakula Hakgala.

*Page* 269.—

**Microtropis Wallichiana** Wight.
Also in S. India.

*Page* 270.—

**Kokoona zeylanica** Thw.
Kitulgala; Singhe Raja Forest (F. Lewis).

*Page* 271.—For *Pleurostylia Wightii* W. & A. read:

**P. opposita** (Wall.). *Celastrus opposita* Wall. ex Carey in Roxb.

Fl. Ind. ed. II, p. 398 (1832). *Pleurostylia Wightii* W. & A. Prodr. p. 157 (1834).

**Elæodendron glaucum** Pers. **Karuvali,** *T.* (Gamble).

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**Celastrus paniculatus** Willd. **Valuluvai,** *T.* (Gamble).

*Page 275.*—For *Hippocratea obtusifolia* Roxb. read:

**H. macrantha** Korth. in Temminck, Verh. Nat. Gesch. p. 187 t. 39 (1839-42); R. A. Rolfe in Kew Bull. 1918, p. 47. *H. Cumingii* Laws. in Fl. Brit. Ind. I, p. 624 (1875). *H. obtusifolia* Trim. Fl. Ceyl. I, p. 275 (1893) non Roxb. ?*H. Bourdillonii* Gamble in Kew Bull. 1916, p. 132.

Also in Malaya, Borneo, Philippines and Travancore (if *H. Bourdillonii* Gamble is the same).

*H. macrantha* Korth. was recorded for Ceylon (Walker) in Kew Bull. 1918 and though I have seen no authenticated specimens of *H. macrantha* Korth. *H. obtusifolia* Trim. agrees well enough with the descriptions available, and differs from an Indian specimen, of *H. obtusifolia,* collected by Wight.

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1. **VENTILAGO** *Gaertn.*

| | |
|---|---|
| Leaves ovate or ovate-lanceolate, 2–2½ in. long, about 1 in. broad, slightly crenate; inflorescence compound, greyish pubescent; flowers small, greenish white, in large clusters . . . . . . . . | 1. V. MADERASPATANA. |
| Leaves lanceolate, about 4 in. long, 1½–2 in. broad, shortly crenate; inflorescence subsessile, ferrugineous pubescent; flowers very small, greenish, in small clusters . | 2. V. LANCEOLATA. |

1. **V. maderaspatana** Gaertn.
Also in Southern India.

2. **V. lanceolata** Gamble in Kew Bull. 1916, p. 134.

Woody climber; branchlets rather stouter than in *V. maderaspatana*, dark, young parts ferrugineous pubescent; leaves about 4 in. long, 1½–2 in. broad, lanceolate, somewhat cuneate at the base, acuminate, very obtuse, glabrous, shiny, usually drying very dark brown; petiole up to ¼ in. long; stipules minute; flowers $\frac{1}{10}$ in. numerous, pedicellate, arranged in small clusters on the branches of large, ferrugineous pubescent, subsimple, terminal panicles; calyx pubescent, lobes acute; petals minute, cucullate; stamens subsessile; styles short; ovary glabrous; nut globular; wing oblanceolate, about 2 in. long.

Hantane (Gardner, Walker), Kurunegala (Thwaites).
Also in S. India.

I have seen no fruit, and the description is from Gamble. More material is required as this species may not be distinct from *V. maderaspatana.*

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2. **ZIZYPHUS** *Juss.*

Add to key:

Leaves rotundate:
Leaves fuscous tomentose beneath; drupe ½ in. 1. Z. JUJUBA.
Leaves grey pubescent on both surfaces; drupe under ½ in. . . . . . . *Z. nummularia.*

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4. **Z. xylopyrus** Willd.
Hiripitiya; Vediratta (F. Lewis).

*Page* 284.—For *Scutia indica* read:

**S. myrtina** Kurz, in Journ. As. Soc. Beng. XLIII, p. 118 (1874); Gamble Fl. Madr. p. 223 (1918). *Rhamnus myrtinus* Burm. f. Fl. Ind. p. 60 (1768). *Scutia indica* Brongn. in Ann. Sc. Nat. Sér. I, X, p. 363 (1827).

*Page* 287.—For *Vitis* L. read:

Petals 5; flowers polygamo-mœcious; infl. bearing a tendril . . . . . . 1. AMPELOCISSUS.
Petals 4:
Flowers bisexual; stigma minute:
Berry usually 1-seeded; seeds ellipsoid or pyriform; leaves usually simple:
Leaves alternate; bud not constricted . 2. CISSUS.
Leaves in whorls of 3, fleshy; bud constricted at apex . . . . . 3. CYPHOSTEMMA.
Berry 2–4 seeded; seeds hemispherical; leaves trifoliate, pedate or digitate . 4. COLUMELLA.
Flowers diœcious; stigma dilated, 4-lobed . 5. TETRASTIGMA.

1. **AMPELOCISSUS** *Planch.*

(?*Botria* Lour.)

Woody climbers; leaves simple in our species; infl. cymose, tendril-bearing; flowers polygamo-monœcious; calyx cup-shaped, obscurely 4–5 lobed; petals 4–5; stamens 4–5, inserted outside the disk; filaments longer than the anther; disk annular; ovary 2-celled, with 2 ovules in each cell; style short, with a discoid stigma; fruit 2–3 seeded; succulent.—Sp. 65; Tropics.

*Page* 288.—For *Vitis tomentosa* Heyne read:

1. **Ampelocissus phœnicantha** nom. nov.* *Vitis tomentosa* Trim. Fl. Ceyl. I, p. 288 (1893) non Heyne.
Endemic.

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* Affinis *A. tomentosæ* Planch, foliis subglabris differt.—Typus: Mihintale, *Trimen*.

For *Vitis indica* L. read:

2. **Ampelocissus indica** Planch. in Journ. Vigne Am. p. 375 pp. *Vitis indica* Linn. Sp. Pl. p. 202 (1753). *V. erioclada* W. & A. Prodr. p. 130 (1834). *Ampelocissus erioclada* Planch. in DC. Mon. Phan. V, p. 380 (1887).

2. **CISSUS** *Linn.*

Woody climbers, with leaf-opposed tendrils; stem often quandrangular; leaves usually simple or lobed; fls. bisexual in leaf opposed cymes; calyx cup-shaped, usually truncate; petals 4; stamens 4, inserted outside the disk; filaments slender, ovary 2-celled, with 2 ovules in each cell; stigma small.—Sp. 69; Tropics.

*Page 289.*—For *Vitis quadrangularis* Wall. read:

1. **Cissus quadrangularis** Linn. Mant. II, p. 39 (1771); Gamble Fl. Madr. p. 233 (1918). *Vitis quadrangularis* Wall. Cat. no. 5992 (1828).

Flowers December, etc.

*Page 289.*—For *Vitis glyptocarpa* Laws. read:

2. **Cissus glyptocarpa** Thw. Enum. p. 62 (1858); Gamble l. c. p. 235. *Vitis glyptocarpa* Laws. in Fl. Brit. Ind. I, p. 645 (1875).

Also in S. India.

*Page 290.*—For *Vitis lonchiphylla* Laws. read:

3. **Cissus lonchiphylla** Thw. Enum. p. 62 (1858). *Vitis lonchiphylla* Laws. in Fl. Brit. Ind. I, p. 646 (1875).

For *Vitis adnata* Wall. read:

4. **Cissus pyrrhodasys** Miq. Fl. Ind. Bat. Suppl. I, p. 51 (1860); Merr. Int. Rumph. p. 344 (1917). ?*C. aristata* Blume Bijdr. p. 183 (1824). *C. assamica* var. *pilosissima* Gagnep. in Not. Syst. I, p. 353 (1911). *Vitis adnata* Trim. Fl. Ceyl. I, p. 290 (1893) non Wall. *V. Linnæi* Trim. l. c. pp. non Wall. ?*Cissus indica* Willd. in Ges. Naturf. IV, p. 183 (1803).

*Page 291.*—For *Vitis Linnæi* Wall. read:

5. **Cissus vitiginea** Linn. Sp. Pl. p. 117 (1753); Gamble Fl. Madr. p. 234 (1918). *Vitis Linnæi* Wall. Cat. no. 5987 (1828).

For *Vitis pallida* W. & A. read:

6. **Cissus pallida** Planch. l. c. p. 477; Gamble l. c. p. 234. *Vitis pallida* W. & A. Prodr. p. 125 (1034).

Gagnepain p. 355 reduces this to *C. repanda* Vahl, but living plants of *C. pallida* have fleshy leaves much smaller and less deeply lobed than those of living *C. repanda*. If as Trimen suggests this is Rheede VII, t. 45 it must take the name *C. repens* which was based on that plate.

Add locality: Haragama.

*Page* 292.—For *Vitis repanda* W. & A. read:

7. **Cissus repanda** Vahl Symb. III, p. 18 (1794); Gamble l. c. p. 234. *Vitis repanda* W. & A. Prodr. p. 125 (1834). *Cissus indica* Rottl. & Willd. in Neue Schrift. IV, p. 183 (1803).

The solid stipules are the central part of the leafy ones which is persistent.

For *Vitis acuminata* Trim. read:

8. **Cissus acuminata** Thw. Enum. p. 62 (1858). *Vitis acuminata* Trim. Fl. Ceyl. I, p. 292 (1893).

For *Vitis Heyneana* Wall. read:

9. **Cissus Heyneana** Planch. l. c. p. 476. *Vitis Heyneana* Wall. Cat. no. 5988 (1828) pp. non DC.

*Page* 293.—For *Vitis Rheedii* W. & A. read:

10. **Cissus trilobata** Lamk. Encycl. I, p. 31 (1783). *Vitis Rheedii* W. & A. Prodr. p. 127 (1834).

Kottava Forest Reserve.

For *Vitis Gardneri* W. & A. read:

11. **Cissus Gardneri** Thw. Enum. p. 63 (1848). *Vitis Gardneri* Laws. in Fl. Brit. Ind. I, p. 656 (1875).

Lower montane zone; common.

### 3. COLUMELLA *Lour.*

Woody climbers with leaf-opposed tendrils; leaves alternate; compound, stipulate; flowers bisexual, in axillary cymes; calyx cup-shaped, usually truncate; petals 4; stamens 4, inserted outside the disk; anthers introrse; ovary 2-celled with 2-ovules in each cell; fruit a 2–4-seeded, usually dry, berry.—Sp. 27; old world tropics.

*Page* 294.—For *Vitis carnosa* Wall. read:

1. **Columella trifolia** Merr. in Phil. Journ. Sc. Bot. XI, 134 (1916). *Vitis trifolia* Linn. Sp. Pl. p. 203 (1753). *V. carnosa* Wall. Cat. no. 6018 (1825). *Cissus carnosa* Lamk. Encycl. I, p. 31 (1783). *Cayratia carnosa* Gagnep. in Not. Syst. I, p. 347 (1911). *Cissus trifolia* K. Sch. in K. Sch. and Hollr. Fl. Kais. Wilh. Land. p. 71 (1889).

For *Vitis reticulata* Laws. read:

2. **Columella retivenia** (Planch.). *Cissus reticulata* Thw. Enum. p. 13 (1858) non Willd. nec Blume. *Vitis reticulata* Laws. in Fl. Brit. Ind. I, p. 655 (1875) non Miquel. *C. retivenia* Planch. in DC. Mon. Phan. V, p. 576 (1887).

Thwaites' specific name should perhaps be used as Willdenow's species has been reduced to *Cissus sicyoides* Linn. and Blume's name was cited as a synonym of *V. reticulata* Miq. = *Columella geniculata* (*Cissus geniculata* Blume).

2a. Columella mollissima (Wall.). *Vitis mollisima* Wall. Cat.

no. 1012 (1878); Roxb. Fl. Ind. ed. 2, II, p. 482 (1832); Laws. in Fl. Brit. Ind. I, p. 656 (1875). *Cissus mollissima* Planch. l. c. p. 575 (1887). *Cayratia mollissima* Gagnep. l. c. p. 345; Gamble l. c. p. 237.

There is a specimen in the Peradeniya Herbarium mixed with *C. retivenia* from the Pasdun Korale which may be this species.

Also in S. India and Malacca.

*Page* 295.—For *Vitis pedata* Vahl read:

3. **Columella pedata** Lour. Fl. Cochinch. p. 85 (1790). *Cayratia pedata* Juss. Dict. IV, p. 136 (1823). *Cissus pedata* Lamk. Encycl. I, p. 31 (1783). *Vitis pedata* Vahl ex Wall. Cat. no. 6027 (1828).

For *Vitis tenuifolia* W. & A. read:

**Columella japonica** (Thunb.) *Vitis japonica* Thunb. Fl. Jap. p. 109 (1784). *Cissus japonica* Willd. Sp. Pl. I, p. 659 (1798). *Cayratia japonica* Gagnep. l. c. p. 349 (1911). *Vitis tenuifolia* Trim. Fl. Ceyl. I, p. 295 (1893) non W. & A.

*Page* 296.—

### 4. CYPHOSTEMMA *gen. nov.**

Succulent, herbaceous, glandular-hispid climbers, with forked tendrils; leaves trifoliolate, verticillate; fls. bisexual, in leaf-opposed cymes; calyx truncate; petals 4, contracted in the middle; stigma small; fruit a one-seeded fleshy berry. —Sp. 51; mostly African.

*Page* 296.—For *Vitis setosa* Wall. read:

**Cyphostemma setosa** (Roxb.) *Cissus setosa* Roxb. Fl. Ind. I, p. 410 (1820). *Vitis setosa* Wall. Cat. no. 6009 (1828).

### 5. TETRASTIGMA *Planch.*

Woody climbers with simple tendrils; leaves usually trifoliate, rarely simple; fls. polygamo-dioecious, in axillary cymes; calyx cup-shaped; truncate, petals 4; stamens or staminodes 4, inserted outside the disk; ovary 2-celled, with 2 ovules in each cell; style short, with a 4-lobed stigma; fruit a 2–4-seeded dry berry.—Sp. 40; Tropical Asia and Australia.

For *Vitis lanceolaria* Wall. read:

**Tetrastigma muricatum** Gamble Fl. Madr. p. 229 (1918). *Vitis muricata* W. & A. Prodr. p. 660 (1834). *V. lanceolaria* Trim.

* Frutices vel herbæ perennes, habitu vario, plerumque scandentes et cirrhosi, rarius erecti et ecirrhosi, ramis sæpe annuis, foliis variis indivisis, palmatifidis vel partitis, digitatis, pedatis vel decompositis; corolla plus minusve lageniformis, semper versus medium contracta, petalis demum patenti reflexis sæpe glanduloso-pilosis; baccæ sæpius monospermæ; cymæ divaricato-divisæ, floribus plus minusve dissitis; pedunculi fructiferi sæpius recurvi.—Typus—*Cissus* sect. *Cyphostemma* Planch.

Fl. Ceyl. p. 296 (1893) non Wall. *Tetrastigma lanceolaria* Planch. l. c. pp.

*Page* 297.—For *Leea sambucina* Willd. read:

**L. indica** Merr. in Phil. Journ. Sc. Bot. XIV, p. 145 (1919). *Staphylea indica* Burm. f. Fl. Ind. p. 75 (1768). *Aquilicia sambucina* Linn. Mant. II, p. 211 (1771). *Leea sambucina* Willd. Sp. Pl. I, p. 1177 (1797). **Otta-nali, Nyckki,** *T.* (Gamble).

*Page* 299.—

### 1. CARDIOSPERMUM *Linn.*

Flowers about $\frac{1}{6}$ in.; leaflets slightly acuminate:
- Leaves glabrous; petiole 2–3 in. long; mature capsules $\frac{1}{2}$ in. diam., 3 angled . . . 1. C. MICROCARPUM.
- Leaves pubescent; petiole about $1\frac{1}{2}$ in. long; mature capsules over 1 in. diam., subglobose . . . . . . . . 2. C. HALICACABUM.

Flowers $\frac{1}{2}$ in. petiole under $\frac{1}{2}$ in. long; leaflets strongly acuminate, pubescent; capsule over 1 in. diam. . . . . . . . 3. C. CORINDUM.

For *C. Halicacabum* L. read:

1. **C. microcarpum** H. B. K. Nov. Gen. & Sp. V, p. 104 (1821); Britt. Fl. Berm. p. 226 (1918). *C. Halicacabum* Trim. Fl. Ceyl. I, p. 299 (1893) non Linn.

2. **C. Halicacabum** Linn. Sp. Pl. p. 366 (1753) non Trim.

Annual, subscandent; stem furrowed, slightly pubescent; leaves biternate; petiole about $1\frac{1}{2}$ in. long, spreading, furrowed; leaflets pedunculate or subsessile, ovate, cuneate at the base, acute, slightly acuminate, deeply incised-serrate, pubescent; fls. very small, rather more than $\frac{1}{6}$ in. diam., in small axillary cymes nearly 2 in. long, usually with 2 opposite tendrils below the cyme; sepals rounded; petals spathulate, more or less clawed: capsules with a peduncle about $\frac{2}{10}$ in. long, bladder like, subpyriform, trigonous, scarcely winged at the angles, finely pubescent, under 1 in. long, somewhat over 1 in. broad.

Wet grassy places in the dry region; fls. Jan. Aug. Allai; Perawili; Sambu (Nevill), Kantelai (Trimen).
Throughout the Tropics.
This may easily be taken for *C. microcarpum* H. B. K. when the capsules are immature.

*Page* 301.—For *Hemigyrosa* Bl. read:

### 2. LEPISANTHES *Blume.*

Leaflets obtuse, 1–2 pairs; fruit oblong, usually 1 seeded, yellow; bracts shorter than the pedicels . . . . . . . 1. L. TETRAPHYLLA.

Leaflets acute, acuminate, 3–5 pairs :
Infl. much longer than the petiole; fruit trigonous, depressed globose, finally oblong, usually 3-seeded, green; bracts large, subulate . . . . . . . . . 2. L. TRICHOCARPA.
Infl. subsimple usually shorter than the petioles; leaflets narrower . . . . . 3. L. DEFICIENS.

For *Hemigyrosa canescens* Thw. read:

1. **Lepisanthes tetraphylla** Radlk. in Sitzb. Math. Phys. Acad. Münch. VIII, p. 276 (1876); Gamble in Fl. Madr. p. 247 (1918). *Sapindus tetraphyllus* Vahl Symb. Bot. III, p. 54 (1794). *Molinæa canescens* Roxb. Cor. Pl. I, t. 60 (1795). *Hemigyrosa canescens* Thw. Enum. p. 56 (1858). **Nekota,** *T.* (Gamble).

Common in the dry region.
Also in S. India.

For *Hemigyrosa canescens* var. *trichocarpa* Trim. read:

2. **Lepisanthes trichocarpa** (Thw.) *Hemigyrosa trichocarpa* Thw. Enum. p. 56 (1858). *H. canescens* Hiern. in Fl. Brit. Ind. I, p. 671 (1872) pp. non Thw. *H. canescens* var. *trichocarpa* Trim. Fl. Ceyl. I, p. 301 (1893).

A small or moderate sized tree; young parts pubescent; leaves pinnate, petiole and rachis 5–7 in. long; leaflets 3–4 pair, oblong-elliptic, 4½–5½ in. long, 1¼–2 in. broad, bright green, acute, acuminate, less cuneate at the base than *L. tetraphylla*; flowers numerous, shortly pedicellate or subsessile, arranged in axillary irregularly branched panicles 6–10 in. long; bracts subulate, longer than the pedicels; petals 4, spathulate, margins slightly sinuate; stamens rather longer than the petals; fruit trigonous, depressed globose, finally oblong, abruptly apiculate, densely villous, green, usually 3-celled.

Moist region, rather rare; common about Kandy; Kadugannava; fls. March–April, white.
Endemic.

3. **Lepisanthes deficiens** Radlk. l. c. p. 276; Gamble l. c. *Sapindus ?deficiens* W. & A. Prodr. p. 111 (1834). *Hemigyrosa trichocarpa* var. *β* Thw. Enum. p. 56 (1858).

A small tree; leaves pinnate; petiole and rachis about 8 in. long; leaflets 4–5 pairs, very shortly stalked, about 7 in. long, 1¼ in. broad, narrowly lanceolate; apex obtuse or acute; base cuneate; venation prominently reticulate; flowers crowded in axillary racemes 2–3 in. long; bracts minute, linear, rather longer than the pedicels; calyx lobes silky; petals 4, slightly clawed with two reflexed scales; stamens 8, exserted; filaments hairy; immature fruit trigonous, ovoid, apiculate; densely villous, green.

Dry region; rare? Alutnuvara, between Nugatenne and Madugoda; Matale East. Fls. June–July, white (purple, Gamble).

Also in S. India.

*Page* 302.—

3. **ALLOPHYLUS** *Linn.*

Leaves simple:

Infl. less than $\frac{1}{2}$ the length of the strongly acuminate elliptic leaves:

Flowers subsessile; infl. often shorter than the petioles; leaves 5–9 in. long, usually subacute with a few coarse teeth:

Branches and petioles glabrous . . . 1. A. ZEYLANICUS.

Branches and petioles densely hispid . 2. A. HISPIDUS.

Flowers with pedicels $\frac{1}{10}$ in. long; infl. almost half as long as the leaves; leaves 3–4 in. long, entire, strongly acuminate, usually obtuse . . . . . . 3. A. ACUMINATUS.

Infl. more than $\frac{1}{2}$ the length of the leaves pedicels $\frac{1}{16}$ in. long; leaves obovate, shortly acuminate, repand-dentate in the upper part . . . . . . 4. A. VARIANS.

Leaves trifoliate . . . . . . . . 5. A. COBBE.

*Page* 302.—For *Allophylus zeylanicus* var. *acuminatus* Hiern read:

3. **A. acuminatus** Radlk. in Sitz. Bay. Akad. Wiss. XXXVIII, p. 227 (1908). *A. zeylanicus* var. *acuminatus* Hiern in Fl. Brit. Ind. I, p. 675 (1875). *Schmidelia acuminata* Thw. Enum. p. 55 (1858).

Small tree, young parts glabrous; leaves simple, 3–4 in. long, $\frac{3}{4}$–2 in. broad, elliptic, cuneate at the base, abruptly caudate-acuminate, usually obtuse, entire, glabrous; petiole $\frac{1}{2}$–$\frac{3}{4}$ in. long; racemes $1\frac{1}{4}$–$1\frac{1}{2}$ in. long, lax, subglabrous; flowers pedicellate; petals twice as long as the sepals, spathulate; stamens numerous, rather longer than the petals; fruit not seen.

Galle; Galagama, abundant by streams; fls. Dec., Apr., May; white. Endemic.

*Page* 302.—For *A. zeylanicus* var. *varians* Hiern read:

**A. varians** Radlk. l. c. *A. zeylanicus* var. *varians* Hiern l. c. *Schmidelia varians* Thw. Enum. p. 408 (1864).

Small tree, young parts glabrous; leaves simple, 2–4 in. long; varying from oval to lanceolate, usually obovate, repand-dentate in the upper third, tapering to the base, apex shortly and obtusely acuminate, glabrous; nerves more prominent than in the other species; petiole $\frac{1}{4}$–$\frac{2}{3}$ in. long; racemes 1–$4\frac{1}{2}$ in. long, stout; fls. shortly pedicellate; petals slightly longer than the calyx, abruptly clawed; stamens

rather longer than the petals; ripe carpels in pairs or more often solitary, pyriform, smooth, about $\frac{3}{10}$ in. long.

Montane zone up to 6000 ft.; common; fls. May, June, Sept., Oct., petals white.

Endemic.

Willis (Ann. Perad. V, p. 184) states under *A. zeylanicus* "type is found at Hakgala," his specimens however belong to this species which has variable leaves but can always be distinguished by the stalked flowers in long racemes.

*Page* 304.—For *Schleichera trijuga* Willd. read:

**S. oleosa** Merr. Interp. Rumph. p. 337 (1917). *Pistacia oleosa* Lour. Fl. Cochinch. p. 615 (1790). *Schleichera trijuga* Willd. Sp. Pl. IV, p. 1096 (1805).

*S. trifoliatus* Linn. was correctly referred to *S. laurifolius* Vahl. in the Fl. Brit. Ind. In the second edition of the Species Plantarum there is no mention of Hermann and it is evident that Linnæus based his species on Rheede Hort. Mal. IV, p. 43 t. 17 (for further discussion see Haines in Kew Bull. 1916).

*Page* 305.—For *Gleniea zeylanica* Hk. f. read:

**G. unijuga** Hk. f. in Bth. and Hk. f. Gen. Pl. I, p. 404 (1862); Radlk. in Sitzb. Bay. Acad. p. 366 (1878). *G. zeylanica* Hk. f. in Bth. and Hk. f. Gen. Pl. I, p. 404 (1862); Thw. Enum. p. 408 (1864). *Sapindus unijugus* Thw. l. c. p. 56 (1858). *Nephelium fuscatum* Thw. l. c. p. 58 (1858). *Euphoria fuscata* Hk. f. l. c. p. 406 (1862).

*Page* 306.—For *Sapindus* Linn. read:

Drupes globose or ovoid, united at sides, sometimes later on separating; petals without a scale; leaflets 4–6 . . . . . . 6. SAPINDUS.
Drupes oblong, diverging, united at the base; petals with a scale:
Seeds arillate; fruit fleshy; tomentose . . 6a. THRAULOCOCCUS.
Seeds without an aril; fruit glabrous; leaflets 2 . . . . . . . . . 6b. APHANIA.

## 6. SAPINDUS *Linn.*

Trees; leaves pinnate; flowers polygamous, in terminal or axillary panicles; sep. 5 imbricate; pet. 5, without a scale within; disk annular, fleshy, lobed; stam. usually 8, inserted within the disk; ovary 2–4 celled; stigma small, lobed; fruit fleshy or coriaceous, of 1–3 indehiscent ovoid or globose drupes; seeds large, usually globose, with two integuments, the outer hard the inner membranous; cotyledons thick.—Sp. about 11.

Flowers regular:
Leaflets rounded at the base, shortly acuminate; fruit of 3 almost completely united drupes . . . . . . . . 1. S. TRIFOLIATUS.

Leaflets cuneate at the base, apex rounded, emarginate; fruit of drupes united about ½ way up and then separating . . . 2. S. EMARGINATUS.
Flowers irregular . . . . . . . *S. Rarak.*

For *S. laurifolius* Vahl read:

1. **S. trifoliatus** Linn. Sp. Pl. p. 367 (1753); Haines in Kew Bull. p. 250 (1920). *S. laurifolius* Vahl Symb. III, p. 54 (1794).

2. **S. emarginatus** Vahl **Pouanga,** *T.* (Gamble).

For *Dittelasma Rarak* Hk. f. read:

SAPINDUS RARAK DC. Prodr. I, p. 608 (1824). *Dittelasma Rarak* Hk. f. in Bth. and Hk. f. Gen. Fl. I, p. 396 (1862–7). ?*Sapindus pinnatus* Mill. Gard. Dict. No. 3 (1768).

## 6a. THRAULOCOCCUS *Radlk.*

Shrubs; leaves pinnate or simple; leaflets lanceolate, sub-opposite; flowers polygamous, in terminal panicles; sep. 5, imbricate; pet. 5, with a scale within; disk annular, fleshy; ovary 2–3 celled; stigma small, lobed; fruit of 1–3 ellipsoid tomentose drupes, slightly connected at the base; seeds large, oblong, with a white fleshy arid; testa membranaceous; cotyledons thick.—Sp. 20.

Leaflets 8–14 . . . . . . . 1. T. ERECTUS.
Leaflets simple . . . . . . . 2. T. SIMPLICIFOLIUS.

*Page* 308.—For *Sapindus erectus* Hiern read:

1. **Thraulococcus erectus** Radlk. in Sitzb. Bay. Akad. VIII, p. 309 (1878). *Sapindus erectus* Hiern in Fl. Brit. Ind. I, p. 683 (1875). *Nephelium erectum* Thw. Enum. p. 57 (1858).
Mirigama; Kadugannava.
Also in S. India.

For *Sapindus Thwaitesii* Hiern read:

2. **Thraulococcus simplicifolius** Radlk. l. c. *Sapindus Thwaitesii* Hiern in Fl. Brit. Ind. I, p. 683 (1875). *Nephelium simplicifolium* Thw. Enum. p. 7 (1858).

Fruit usually of a single carpel (by abortion), about 1 in., ovoid, obtuse, densely puberulous, pale ochre-yellow, pericarp thin, tough; seed arillate.

## 6b. APHANIA *Bl.*

A moderate sized tree; leaves pinnate; flowers polygamous, in terminal or axillary panicles; sep. 5, imbricate; pet. 5, not clawed, with a lacinate scale within; disk annular, fleshy, slightly lobed; ovary 2-celled; styles as long as the ovary; fruit fleshy, with 2 lobes united only at the base; seeds large, exarillate; cotyledons thick.—Sp. about 12.

*Page* 307.—For *Sapindus bifoliatus* Hiern read:

**Aphania bifoliata** Radlk. in Sitzb. Acad. Bay. VIII, p. 238 (1878). *Sapindus bifoliatus* Hiern in VI, Brit. Ind. I, p. 684 (1875). *Nephelium bifoliatum* Thw. Enum. p. 57 (1858).

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7. **NEPHELIUM** *Linn.*

Radlkofer splits this into several genera, but I have preferred to follow Gamble who retains it in its present sense.

*Page* 310.—

**Pometia eximia** Hk. f.

Also in the Andaman Is. and Celebes—See Valeton in Bull. Inst. Buit. XV, p. 8 (1902), and Koorders and Valeton Boomsoorten op Java IX, p. 197 (1903).

*Page* 311.—For *Harpullia imbricata* Thw. read:

**H. arborea** Radlk. in Sitzb. Acad. Münch. XVI, p. 404 (1886). *Ptelea arborea* Blanco Fl. Filip. p. 63 (1837). *Otonychium imbricatum* Bl. in Rumphia III, p. 188 (1850). *Harpullia imbricata* Thw. Enum. p. 56 (1858). **Nei-Kottei,** *T.* (Gamble).

*Page* 313.—For *Turpinia pomifera* DC. read:

**T. malabarica** Gamble in Kew Bull. p. 135 (1916). *T. pomifera* Trim. Fl. Ceyl. I, p. 313 (1893) non DC.

*Page* 314.—

**Meliosma Arnottiana** Walp. **Kusavi, Thagarai,** *T* (Gamble).

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*Page* 316.—

## XLII.—ANACARDIACEÆ.

| | |
|---|---|
| Carpels free, only 1 fertile; stam. 10; leaves simple . . . . . . . . . | 1. BUCHANANIA. |
| Carpels united: | |
| Ovary 1-celled; stam. 4–8: | |
| Leaves pinnate; styles 4; pet. 4; stam. 8 . | 3. LANNEA. |
| Leaves simple; styles 1 or 3: | |
| Styles 3; petals 5; stam. 5 . . . . | 4. SEMECARPUS. |
| Style 1: | |
| Petals 5; only 1 stam. fertile: | |
| Stam. 5–8 . . . . . . . | 2. MANGIFERA. |
| Stam. 8–10 . . . . . . . | 2a. *Anacardium.* |
| Petals 4; stam. 4 . . . . . . | 5. NOTHOPEGIA. |
| Petals 3; stam. 6 . . . . . . | 6. CAMPNOSPERMA. |
| Ovary 5-celled; leaves pinnate; stam. 10 . | 7. SPONDIAS. |

**Buchanania angustifolia** Roxb. **Mudamah, Kolamavu,** *T.* (Gamble). **Sara pappu,** *T.* (seeds, Gamble). **Kiri-palu,** *S.* (F. Lewis).

Between Haputale and Belihuloya (F. Lewis).

The Rajavaliya relates that this species was introduced from India and planted by Indra at Kelaniya.

### 2a. Anacardium *Linn.*

Trees; leaves simple; fl. polygamous, in terminal panicles; sep. 5, imbricate; pet. 5, linear-lanceolate; imbricate; disk with the torus stipitate; stam. 8–10, only one fertile, the rest barren and reduced in size; filaments connate, adnate to the disk; ovary 1-celled; nut kidney-shaped.

Anacardium occidentale Linn. Sp. Pl. p. 548 (1753); Engl. in DC. Mon. Phan. IV, p. 219 (1883). **Caju,** *S.* **Montiri-kai,** *T.*

A small tree; young parts glabrous; l. 4–8 in., obovate-oblong, tapering at base, rounded at apex, glabrous, entire, coriaceous; lateral nerves about 10 pairs; petiole up to $\frac{1}{2}$ in. long; panicles 6–10 in. long, pubescent, with the fls. crowded at the tips of the branches; bracts ovate-lanceolate, canescent; fls. $\frac{1}{3}$ in.; petals squarrose, canescent; ovary obovoid or obcordate; style filiform excentric; stigma minute; fruit 1 in.; nut reniform, seated on a pyriform fleshy body 2–3 in. long, formed of the enlarged disk and top of peduncle.

Low country; naturalised; common. Fl. Feb. Apr.; yellow. Native of Tropical America.

*Page* 318.—

Mangifera indica Linn. **Maa,** *T.* (Gamble), **Manga,** *T.* (F. Lewis).

For *Odina* Roxb. read:

### 3. **LANNEA** *A. Rich.*

For *Odina Wodier* Roxb. read:

**Lannea grandis** Engl. in Engl. and Prantl. Nat. Pfl. Nachtr. I, p. 214 (1897). *Haberlia grandis* Dennst. Scheuss. Hort. Mal. p. 30 (1818). *Odina Wodier* Roxb. Hort. Beng. p. 29 (1814), name only; Fl. Ind. II, p. 293 (1832). *O. pinnata* Rottl. in Ges. Naturf. Berl. IV, p. 209 (1803) in obs., nomen; Clarke in Kew Bull. 1894, p. 202.

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### 4. **SEMECARPUS** *Linn. f.*

Infl. cauline; shrub; lvs. obovate-lanceolate 8–15 in. long, with a semitransparent border . . . 1. S. marginata.
Infl. terminal or axillary; trees leaves without a transparent border:
  Leaves peltate, lanceolate-oblong, 9–15 in. long; petiole $1\frac{1}{2}$ in. long . . . . . 2. S. subpeltata.
  Leaves not peltate:
    Leaves hairy beneath, narrowly oblong-lanceolate, 5–12 in. long . . . . . 3. S. pubescens.

Leaves glabrous :
  Petiole very short; leaves very coriaceous, base of blade not tapering into petiole :
    Leaves obovate :
      Bark whitish; infl. not stout axillary or terminal; lateral nerves sub-horizontal; fls. small . . . . 4. S. OBOVATA.
      Bark blakish; infl. stout, terminal; lateral nerves ascending, more prominent above; fls. large . . . 5. S. CORIACEA.
    Leaves lanceolate, 6–12 in. long . . 6. S. MOONII.
  Petiole rather long :
    Leaves not coriaceous, 6–13 in. long; lanceolate; venation reticulate, base of blade not tapering into petiole :
      Lateral nerves about 9, oblique . . 7. S. ACUMINATA.
      Lateral nerves 12–20, subhorizontal . 8. S. GARDNERI.
    Leaves very coriaceous, up to 8in. long, base of blade usually tapering into petiole :
      Leaves elliptic or lanceolate, shortly decurrent :
        Venation regularly reticulate, conspicuous; leaves long acuminate; petioles $\frac{1}{2}$–$\frac{3}{4}$ in. . . . 9. S. INTERMEDIA.
        Venation with the meshes laterally elongated near the midrib; leaves shortly acuminate; petioles 1–1$\frac{1}{2}$ in. . . . . . . 10. S. WALKERI.
      Leaves more or less obovate :
        Leaves acuminate :
          Leaves abruptly cuneate at the base :
            Petioles less than $\frac{3}{4}$ in. long; leaves somewhat decurrent :
              Leaves under 3 in. drying light brown beneath; veins obscure . . . . 11. S. PARVIFOLIA.
              Leaves up to 5 in. drying dark brown beneath; veins more prominent . . . . 12. S. LÆVIGATA.
            Petioles over $\frac{3}{4}$ in. long stout; leaves not decurrent, drying ochraceous beneath . . 13. S. OCHRACEA.
          Leaves gradually tapering towards the base; conspicuously decurrent, drying brown beneath . 14. S. NIGROVIRIDIS.
        Leaves round at the apex not acuminate, drying brown beneath . 15. S. OBSCURA.

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1. **S. marginata** var. **hirsuta** Thw. Galle.

*Page* 320.—

2. **S. subpeltata** Thw.
Valley of the Kaluganga; near Ratnapura; Gilimale Forest (F. Lewis).

3. **S. pubescens** Thw.
Deymanhandiya and Palabadalla; Kuruvita Korale; Delgoda.

*Page* 322.—

8. **S. Gardneri** Thw.
Deymanhandiya; Kuruvita Korale; delete locality Kandy.

9. **S. intermedia** sp. nov.* *S. acuminata* var. *intermedia* Trim. l. c. pp. non Thw.

Tree; branches glabrous; leaves lanceolate, about 4 in. long, $1\frac{1}{2}$–2 in. broad, cuneate at the base, slightly decurrent, abruptly long acuminate; apex obtuse; margin entire; lateral nerves closely and conspicuously reticulate; petiole up to $\frac{3}{4}$ in. long, channelled above. Infl. terminal, rather stout. Flowers pedicellate; pedicels about $\frac{1}{10}$ in. long. Drupe large $1\frac{1}{4}$–$1\frac{1}{2}$ in., cordate-ovoid, obliquely acuminate; receptacle $\frac{5}{8}$ in. much narrower than the drupe, obconic.

Moist low country up to 3000 ft.; rare. Ambagamuva; Ratnapura; Maskeliya. Fls. Feb., March.
Endemic.

10. **S. Walkeri** Hk. f. *S. nigroviridis* Trim. Fl. Ceyl. I, p. 323 (1893) pp. non Thw.
Sabaragamuva. Fls. Jan., March.

12. **S. lævigata** Thw. *S. nigroviridis* Trim. l. c. pp. non Thw.
Eratne; Singhe Rajah Forest.
Endemic.

13. **S. ochracea** sp. nov.† *S. nigroviridis* Thw. Enum. p. 76 (1868) pp. *S. Gardneri* Thw. Enum. p. 76 (1868) pp. *S. obscura* Thw. Enum. p. 410 (1868) non p. 76. *S. Walkeri* Trim. Fl. Ceyl. I, p. 322 (1893) pp. non Thw.

Tree; branches glabrous. Leaves obovate-lanceolate, 3–6 in. long, $1\frac{1}{2}$–$2\frac{1}{4}$ in. broad, cuneate at the base, not decurrent, abruptly and shortly acuminate; apex subacute; margin entire; lateral nerves about 12 on either side; tertiary nerves closely reticulate; petiole $\frac{3}{4}$–$1\frac{1}{4}$ in. long, scarcely channelled. Infl. terminal or axillary. Flowers sessile, about $\frac{1}{4}$ in. diam. Fruit not seen.

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* Affinis *S. Walkeri* Hk. f. foliis longe acuminatis, nervis tertiariis regulariter reticulatis differt—Typus: *S. acuminata* var. *intermedia* Trim.

† Affinis *S. obscuræ* Thw. foliis acuminatis in siccitate ochraceis differt.—Typus: Dolosbagie, May 1868, *Thwaites* C.P. 631 pp.

Dolosbagie; Kandy. Fls. Apr., May.
Endemic.

*Page* 323.—

14. **S. nigroviridis** Thw.
Ramboda; Nuvara Elyia; Rangala; Deltota; Maturata; Dimbula; Haputale; Ratnapura.

*Page* 324.—

15. **S. obscura** Thw. Enum. p. 76 (1858). ? *S. zeylanica* Bl. Mus. Bot. Lugd.—Bat. I, p. 189 (1850). ?*S. cuneata* Engl. in DC. Mon. Phan. IV, p. 493 (1883).

Blume's name is the oldest, but I have not seen his specimen which was collected by Burmann and consists of leaves only; if it is a *Semecarpus* it is certainly this species.

Deltota; Maturata; Uma-oya; Kalupahane; Batticaloa; Ganoruva.

*Page* 325.—For *Nothopegia Colebrookiana* Bl. read:

**N. Beddomei** Gamble in Kew Bull. 1918, p. 227. *N. Colebrookiana* Trim. Fl. Ceyl. I, p. 323 (1893) non Bl. *Glycycarpus racemosa* Thw. Enum. p. 78 (1858) non Dalzell.

Also in S. India.

*Page* 326.—

**Campnosperma zeylanica** Thw.
Bambarabotuva and the base of Adam's Peak from Pelmadulla to Kitulgalla (F. Lewis).

*Page* 327.—For *Spondias mangifera* Willd. read:

**S. pinnata** Kurz, in Pegu. Rep. p. 44 (1875). *Mangifera pinnata* Linn. f. Suppl. p. 156 (1781). *S. mangifera* Willd. Sp. Pl. II, p. 751 (1799).

For *Moringa pterygosperma* Gaertn. read:

M. OLEIFERA Lamk. Encycl. I, p. 398 (1791); Gamble Fl. Madr. p. 269. *M. zeylanica* Pers. Syn. I, p. 461 (1805). *Guilandinia Moringa* Linn. Sp. Pl. p. 381 (1753). *M. pterygosperma* Gaertn. Fruct. II, 314 (1783).

# PART II

*Page* 1.—For *Rourea santaloides* W. & A. read:

**R. minus** (Gaertn.) *Ægiceras minus* Gaertn. Fruct. I, p. 216 (1791). *Connarus santaloides* Vahl Symb. IV, p. 87 (1794). *Rourea santaloides* W. & A. Prodr. p. 144 (1834).

*Page* 3.—For *Ellipanthus Thwaitesii* Hk. f. read:

**E. unifoliatus** Hk. f. in Bth. and Hk. f. Gen. Pl. I, p. 434 (1862–7). *E. Thwaitesii* Hk. f. Fl. Brit. Ind. II, p. 55 (1879). *Connarus unifoliatus* Thw. Enum. p. 80 (1858).

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*Page* 5.—

## XLIV.—LEGUMINOSÆ.

Add to key, line 8:

Pod flat:
  Erect, spinose shrub . . . . . . 1a. *Ulex.*
  Prostrate herb . . . . . . 2. HEYLANDIA.

Add to key, line 12:

L. 3-foliolate:
  Pod under ½ in. long:
    Terminal leaflet subsessile:
      Petals caducous . . . . . 4. PAROCHETUS.
      Petals persistent . . . . . *Trifolium.*
    Terminal leaflet stalked . . . . *Melilotus.*
  Pod over 1 in. long . . . . . *Cyamopsis.*

Add to key, line 37:

Standard longest:
  Trees . . . . . . . . . 27. ERYTHRINA.
  Climbing herbs . . . . . . 35a. *Centrosema.*

*Page* 6.—Add to key, line 3:

Climbing plants:
  Plant herbaceous . . . . . . . 29. GALACTIA.
  Plant woody . . . . . . . *Spatholobus.*

Add to key, line 36:

Joints wrinkled:
  Anthers uniform; leaflets 4 . . . . *Geissaspis.*
  Anthers dimorphous; leaflets 3 . . . 11. STYLOSANTHES.

*Page* 7.—For *Rothia trifoliata* Pers. read:

**R. indica** Druce in Rep. Bot. Exch. Cl. Brit. Isles 1913, p. 423 (1914). *R. trifoliata* Pers. Syn. Pl. II, p. 382 (1807). *Trigonella indica* Linn. Sp. Pl. p. 778 (1753).

### 1a. Ulex *Linn.*

Shrubs; leaves trifoliolate in seedlings, spinescent in mature plants, exstipulate; fl. solitary, axillary; calyx 2-lipped, upper lip 2-lobed, lower 3–5-toothed; petals clawed; stam, monadelphous, anth. dimorphous, 5 large and 5 small; stigma capitate; pod many-seeded.—Sp. 12; Europe and N. Africa.

U. europæus Linn. Sp. Pl. p. 241 (1753).

A shrub, up to 4 ft. high; spines 1–2 in. long, rigid, furrowed, green; leaflets, if present, hairy; inflorescence racemose; calyx pubescent with black hairs; keel-pet. shorter than wings; pod ¾ in. long.

Common about Nuvara Eliya. Fl. bright yellow, sweet-scented. Native of Europe.

*Page* 8.—

### 3. **CROTALARIA** *Linn.*

Leaves simple :
 Racemes panicled ; seed solitary . . . 18. C. lunulata.
 Racemes solitary ; seeds numerous :
  Stems prostrate or ascending, diffuse, herbaceous :
   Stipules wanting :
    Flowers 1–4 in a raceme :
     Pod globose . . . . . . 1. C. biflora.
     Pod oblong . . . . . . 2. C. prostrata.
    Flowers 4–20 in a raceme :
     Leaves linear-spathulate . . 9. C. albida.
     Leaves oblong-elliptic ; raceme capitate . . . . . . 10. C. nana.
     Leaves obovate-oblong ; raceme lax 11. C. linifolia.
   Stipules present :
    Pod glabrous :
     Leaves elliptic ; stipules foliaceous 3. C. leioloba.
     Leaves linear ; stipules small . 7. C. mysorensis.
    Pod hairy :
     Stem nearly cylindrical . . . 4. C. evolvuloides.
     Stem strongly triquetrous . . 8. C. triquetra.
  Stem erect, robust, often semi-shrubby :
   Stipules present :
    Stipules large, decurrent :
     Upper leaves broadly oblong, densely rusty pubescent ; stipular wing tapering from apex to base :
      Leaves up to 1·5 in. long . . 6. C. scabrella.
      Leaves up to 0·4 in. long . . *C. Wightiana.*
     Upper leaves linear-oblong, thinly pubescent ; stipular wing broadening in the middle . . . 6a. C. Bidiei.

Stipules small, not decurrent :
Flowers yellow :
Pod glabrous :
Plant very hairy . . . 13. C. CALYCINA.
Plant subglabrous . . . 14. C. RETUSA.
Pod puberulous . . . . 16. C. WALKERI.
Pod densely hairy :
Leaves acute; racemes 2–6-flowered . . . . 5. C. MULTIFLORA.
Leaves obtuse; racemes 1–2-flowered . . . . *C. bifaria.*
Flowers blue or rarely white . . 15. C. VERRUCOSA.
Stipules wanting :
Pod glabrous . . . . . 12. C. TECTA.
Pod hairy . . . . . . 17. C. JUNCEA.
Leaves compound :
Pod small, subglobose, 1–2-seeded :
Hairs adpressed; corolla twice as long as the calyx . . . . . . 19. C. MEDICAGINEA.
Hair suberect; corolla three times as long as the calyx . . . . . . *C. Willdenowiana.*
Pod large, oblong, many-seeded :
Pod with a short stalk :
Pod hairy :
Hairs on pod adpressed, silky . . 21. C. CLAVATA.
Hairs on pod erect; flowers yellow; seeds medium-sized, brownish-blue 21a. *C. incana.*
Pod glabrous :
Leaves obtuse :
Flowers yellow, usually with purple veins; seeds medium-sized, brown 20. C. STRIATA.
Flowers yellow; standard brownish on back . . . . . 23. C. QUINQUEFOLIA.
Leaves acute :
Flowers yellow with purple veins; seeds medium-sized, brown . 20a. *C. Brownei.*
Flowers yellow with two purple blotches, rarely yellow all over; seeds small, reddish . . . *C. usaramoensis.*
Flowers yellow all over; seeds large, greenish-brown . . *C. anagyroides.*
Pod with a very long stalk . . . 23. C. LABURNIFOLIA.

*Page* 11.—For *C. rubiginosa* Willd. read :

Upper leaves broadly oblong, densely rusty pubescent; stipular wing tapering from apex to base . 6. C. SCABRELLA.
Upper leaves linear-oblong, thinly pubescent; stipular wing broadening in the middle . . . 6a. C. BIDIEI.

6. **C. scabrella** W. & A. Prodr. p. 181 (1834). *C. Wightiana* Thw. Enum. p. 81 (1859) pp. non Grah. *C. rubiginosa* Trim. Fl. Ceyl. II, p. 11 (1894) pp. non Willd.

A robust erect herb, much branched, 1–2 ft. high; stem densely and softly villous; leaves up to 1·5 in. long, oblong

or elliptic, obtuse or acute, mucronate, densely rusty pubescent beneath; lateral veins very strongly marked beneath; stipules large, decurrent, widened at the apex into a broad, usually recurved point, tapering towards the base; fls. moderate-sized, on curved silky pedicels 2–3 in. long, in few fld. racemes; peduncle leaf-opposed; calyx-segm. large, nearly $\frac{3}{4}$ in., acuminate, densely silky with golden or fulvous hair; petals scarcely longer than the calyx; pod $1\frac{1}{2}$ in., shortly stalked, narrowly oblong-ovoid, very turgid, tipped with the sharp, hooked, stiff base of the style, glabrous, pale brown, often marked with white streaks; seeds 20–30.

Montane zone 5000–6000 ft., on the patanas; rather common, especially in the Uva Province. Bandaravela; Hakgala; Elephant Plains. Flowers March, April, August, September.

Also in S. India.

C. Wightiana Grah. in Wall. Cat. no. 5358 (1828); Prain in Journ. Roy. As. Soc. Beng. LXVI, p. 350 (1897).

Prain gives:—Kandy, *Thwaites, Watson;* Pidurutalagala, *T. Thomson* for this species.

It is a shrub, 3–4 ft. high; leaves up to 4 in. long and 3–5 in. broad, elliptic-obovate; flowers larger; pod nearly 2 in. 30–40 seeded; otherwise as *C. scabrella.*

6a. **C. Bidiei** Gamble in Kew Bull. 1917, p. 27. *C. Wightiana* Thw. Enum. p. 81 (1859) pp. non Grah. *C. rubiginosa* Trim. Fl. Ceyl. II, p. 11 (1894) pp. non Willd.

A less robust herb, suberect and spreading or more rarely erect, less branched, $1–1\frac{1}{2}$ ft. high; stem hairy; upper leaves oblong-linear, $1–1\frac{1}{2}$ in. long, $\frac{1}{10}–\frac{1}{2}$ in. broad, obtuse, mucronate or not, slightly hairy; lateral veins less strongly marked than in *C. scabrella;* lower leaves oblong; stipules large, broadly decurved on the stem so as to form wings with the upper part dilated, spreading, usually rather falcate, broadening below, then tapering to the base; flowers moderate-sized, on curved, silky pedicels 1–3 in. long; bracts acute; calyx segments smaller than in *C. scabrella*, acuminate, densely silky with golden or fulvous hair; petals scarcely longer than the calyx; pod $1\frac{3}{4}$ in., stalked, narrowly oblong-obovoid, very turgid, tipped with the sharp, hooked, stiff base of the style, glabrous, pale brown without white streaks.

Montane zone; rare. Galagama; Lunugala. Fls. Jan., May; pale yellow.

Also in S. India.

*Page* 16.—

16. **C. Walkeri** Arn.
Also in S. India.

*Page* 18.—

19. **C. medicaginea** Lamk.

**Part II.**

Fort Macdonald Valley; Panama.

C. Willdenowiana DC. Prodr. II, p. 134 (1825); Bak. in Fl. Brit. Ind. II, p. 81 (1879).
I do not understand why Trimen says "not native" it is a native of S. India and might be expected here. Thwaites appears to have considered it a native.

21a. C. incana Linn. Sp. Pl. p. 716 (1753); Bak. l. c. p. 83; Bot. Reg. t. 377.

A herb about 1½ ft. high; stem pubescent; leaflets elliptic, obtuse or subacute, pubescent beneath, shorter than the petiole; inflorescence racemose, terminal; flowers numerous, on short stalks; cal.-segm. linear-lanceolate, subequal, minutely pilose; pet. exserted, standard bent upwards; pod up to 1½ in. long, cylindric, sessile, densely villous; seeds 25.

Common in waste places. Fls. Sept., Oct.; pure yellow.
Native of Tropical America, but also found in Tropical Africa and Asia.

20. **C. striata** DC.
Baker, in Journ. Linn. Soc. XLII, p. 309 (1914), points out that this is not *C. Saltiana* Andr. as stated in the Index Kewensis.

*Page* 19.—For *C. striata* var. *acutifolia* Trim. read:

20a. C. Brownei Bertero ex. DC. Prodr. II, p. 130 (1825); Prain in Journ. As. Soc. Beng. LXVI, p. 353 (1897). *C. lanceolata* Roxb. Hort. Beng. p. 54 (1814); W. & A. Prodr. I, p. 180 non E. Mey. *C. striata* var. *acutifolia* Trim. Cat. Ceyl. p. 22 (1885).

As *C. striata* but a larger plant, 3–6 ft. high; leaflets acute; stipules minute, deciduous; racemes closely packed.

Not uncommon about Kandy.
Native of the West Indies.
I have compared fresh specimens of the two species and quite agree with Prain that this is distinct.

C. usaramoensis Bak. f. in Journ. Linn. Soc. Bot. XLII, p. 346 (1914).
A native of Eastern Tropical Africa, cultivated for green manure and sometimes found as a casual.

C. anagyroides H. B. K. Nov. Gen. & Sp. VI, p. 404.
A native of Venezuela ; also grown for green manure.

## Trifolium *Linn.*

Heads oblong; flowers pale pink . . . . . *T. arvense.*
Heads globose:
  Flowers white:
    Heads on long peduncles . . . . . . *T. repens.*
    Heads almost sessile . . . . . . . *T. glomeratum.*
  Flowers yellow . . . . . . . . . *T. dubium.*

T. arvense Linn. Sp. Pl. p. 769 (1753).
A casual between Nuvara Eliya and Hakgala.
A native of Europe and N. Africa.

T. REPENS Linn. Sp. Pl. p. 767 (1753).
A casual (?) Nuvara Eliya, Ambevela (1928).
Native of Europe and N. Asia.

T. GLOMERATUM Linn. Sp. Pl. p. 770 (1753).
A casual, Nuvara Eliya (1926).
Native of Europe and N. Africa.

T. DUBIUM Sibth. Fl. Ox. p. 231 (1794). *T. minus* Relhan, Fl. Cantab., ed. 2, p. 290 (1802).
A casual at Hakgala (1881, 1906).
Native of Europe.

*Page* 21.—For *Melilotus parviflora* Desf. read:

M. INDICA All. Fl. Pedem. I, p. 308 (1785); Prain in Journ. As. Soc. Beng. LXVI, p. 354 (1897). *M. parviflora* Desf. Fl. Atlant. II, p. 198 (1798).

CYAMOPSIS *DC.*

C. TETRAGONOLOBUS Taub. in Engl. u. Prantl. Nat. Pfl. III, 3, p. 259 (1894). *Psoralea tetragonoloba* Linn. Mant. II, p. 104 (1771). *Dolichos psoralioides* Lamk. Encycl. II, p. 300 (1786). *Cyamopsis psoralioides* DC. Prodr. II, p. 216 (1825).
This species is occasionally cultivated and occurs as a casual.

### 5. **INDIGOFERA** *Linn.*

Add to key:

Lfts. 5:
Pod $\frac{3}{4}$ in. long . . . . . 5. I. GLABRA.
Pod $1\frac{1}{2}$ in. long . . . . 11a. I. PARVIFLORA.

Add to key:

Pod nearly glabrous:
Pod curved:
Pod thin, slightly curved . . 13. I. TINCTORIA.
Pod thick, strongly curved . . 13a. *I. suffruticosa.*
Pod straight . . . . . *I. endecaphylla.*

For *Indigofera echinata* Willd. read:

1. **Indigofera nummularifolia** Livera m.s. *I. echinata* Sp. Pl. III, p. 1222 (1800). *Hedysarum nummularifolium* Linn. Sp. Pl. p. 746 (1753).

*Page* 22.—

3. **I. enneaphylla** Linn. **Bin-avari,** *S.*

*Page* 23.—

4. **I. asplathoides** Vahl.
Talaimannar.

*Page* 24.—

6. **I. tenuifolia** Rottl.
Mananpitiya.

**Part II.**

*Page* 24.—For *I. viscosa* Lam. read:

7. **I. Colutea** Merr. in Phil. Journ. Sc. XIX, p. 355 (1921). *I. viscosa* Lamk. Encycl. III, p. 247 (1789). *Galega Colutea* Burm. f. Fl. Ind. p. 172 (1768).

*Page* 24.—For *I. trifoliata* Linn. read:

8. **I. Barberi** Gamble Fl. Madr. p. 310 (1918). *I. trifoliata* Trim. Fl. Ceyl. II, p. 24 non Linn.

Also in S. India.

The specimen which Trimen thought to be *I. vestita* Bak. may be the true *I. trifoliata* Linn.

*Page* 25.—For *I. paucifolia* Del. read:

11. **I. oblongifolia** Forsk. Fl. Ægypt. Arab. p. 137 (1775); Gamble Fl. Madr. p. 311 (1918). *I. paucifolia* Del. Descr. Egypte p. 251 (1812).

*Page* 26.—

11a. **I. parviflora** Heyne in Wall. Cat. no. 545 (1828); W. & A. Prodr. p. 201 (1834); Bak. in Fl. Brit. Ind. II, p. 97 (1879).

Annual, 1–2½ ft., erect, slightly branched; l. imparipinnate, rachis about 1½ in. long; leaflets usually 5, linear-oblong about 1 inch shorter than the leaves; pods 1½ in., few, deflexed, linear, apiculate, sparsely pilose; seeds 15–20.

Low country, rare. Colombo.

Also in S. India, Tropical Africa and N. Australia.

*Page* 26.—

13. **I. tinctoria** Linn. **Nilam,** *T.* (F. Lewis).

For *I. Anil* read:

13a. I. SUFFRUTICOSA Mill. Dict., ed. 8, no. 2 (1768); Prain & Bak. f. in Journ. Bot. XL, p. 63 (1902). *I. Anil* Linn. Mant. II, p. 272 (1771).

A erect shrub, about 5 ft. high; leaves imparipinnate, rhachis about 5 in.; lfts. 11–15, shortly stalked, ½–1¼ in. long, oblong-lanceolate with adpressed silvery hairs beneath; racemes many-flowered, shorter than the leaves; pods ½ in., strongly curved, sparingly hairy, 4–8-seeded.

Not uncommon in waste places. Fls. Oct.

Native of Guatemala?

*Page* 28.—

**I. galegoides** DC. **Veliveriya,** *S.*

*Page* 28.—

I. ENDECAPHYLLA Jacq. Ic. t. 570 (1793). ?*I. pusilla* Lamk. Encycl. II, p. 248 (1786).

This species is commonly cultivated as a cover plant on estates.

*Page* 28.—

**Psoralea corylifolia** Linn. **Kavothi,** *T.* **Karporgam,** *T.*
Nuvara Eliya Distr. (C. Drieberg).

*Page* 29.—

**Mundulea suberosa** Benth. **Gal-burutu,** *S.* **Pilavaiam,** *T.* (Gamble).

The S. name was probably given because the wood resembles satin-wood.

*Page* 30.—

2. **Tephrosia senticosa** Pers.
*T. tinctoria* Trim. Fl. Ceyl. II, p. 31 (1894) pp. non Pers.

An erect shrubby plant, about 3 ft. high; leaflets 5 pairs and an end one, 1–1½ in., obovate-oblong, emarginate, glabrous above, thinly clothed with white, adpressed hairs beneath, stip. subulate; fl. shortly stalked, in few-flowered, crowded, pedunculate racemes; pod 2–2½ in., straight, sparingly pilose, with 9 seeds.

Dry region; rather rare. Jaela; Panvella. Fl. Dec.
This is not *Galega pentaphylla* Roxb. as Trimen states. It resembles *T. tinctoria,* but the leaflets are less hairy.

*Page* 31.—For *Teprosia tinctoria* Pers. read:

Midrib of leaflet glabrescent or grey pubescent; stems finely pubescent; leaflet usually obovate, emarginate; thinly grey pubescent; pods subglabrous . . . . . . . 2. T. SENTICOSA.
Midrib of leaflet rufous pubescent below; stems densely pubescent; leaflets usually oblong, densely silvery pubescent beneath; pods rufous pubescent:
Terminal leaflet 1–2½ in. long; stipules subulate 3. T. TINCTORIA.
Terminal leaflet 3 in. long; stipules broadly ovate . . . . . . . . . 3a. T. PULCHERRIMA.

3. **T. tinctoria** Pers.; Trim. Fl. Ceyl. II, p. 31 (1894) pp.
Horton Plains; Kandy; Lunugala. Fls. Jan.; reddish orange.
Also in S. India.

3a. **T. pulcherrima** Wight ex. Bak. in Fl. Brit. Ind. II, p. 112 (1879). *T. tinctora* var. *pulcherrima* Bak. l. c.

Shrubby perennial; stem erect, 1½–3 ft. high; branches stiff, slightly angled, densely pubescent; stipules broadly ovate, acuminate, subglabrous; leaflets 1–5, very unequal; terminal leaflet about 3 in. long; often the only one present, oblong, very densely silky beneath, glabrous above; midrib rufous pubescent; lateral veins rather conspicuous; fls. rather small, subsessile; bracts hairy on the margins; pod 2–2½ in. long, linear, apiculate, densely rufous pubescent.

Matale.
Also in S. India.

*Page* 32.—After *T. purpurea* Pers add:

Stems erect; fls. usually over 3 together, pink or purple:
  Flowers under 0·3 in.; stem glabrouscent . 4. T. PURPUREA.
  Flowers over 0·3 in.; stem pubescent . . 4a. T. HAMILTONII.
Stems prostrate; fls. usually in 3s, white . . 4b. T. PUMILA.

4a. **T. Hamiltonii** Drumm. ex Gamble Fl. Madr. p. 320 (1918).

A shrubby perennial with sparingly pubescent branches; leaf-rachis about 3 in. long; stipules subulate; lfts. about 7 pairs and an end one, on short pilose stalks, narrowly cuneate-oblong, obtuse, mucronate; glabrous above, finely adpressed-silky beneath; flowers numerous, on slender ped., 2 or 3 together in long lax racemes; calyx silky, segm. long acuminate; pod 1½ in., linear, straight, with about 5 seeds.

Dry region, probably common. Jaffna.
Also in India.

4b. **T. pumila** Pers. Syn. II, p. 330 (1807). *T. procumbens* Ham. in Trans. Linn. Soc. XIII, p. 54 (1822) non Macf. *T. diffusa* W. & A. Prodr. I, p. 213 (1834) non Harv. *T. parviflora* Wight in Wall. Cat. 5642 (1830). *T. purpurea* var. *pumila* Bak. in Fl. Brit. Ind. II, p. 113 (1879). *Galega diffusa* Roxb. Fl. Ind. III, p. 387 (1832).

A perennial herb, prostrate; stems up to 16 in. long, young parts with spreading hairs, glabrescent; leaves once pinnate; rachis about ¾ in. long, pinnæ usually 7, obovate, glabrous above, adpressed pilose beneath, mucronate, very shortly petiolate; flowers usually in 3-fld., axillary racemes; calyx densely pilose, segments linear; ped. 1 in. linear, pilose.

Between Dambulla and Nalande.
Also in S. India.

*Page* 32.—For *T. Hookeriana* W. & A. read:

6. **T. noctiflora** Boj. ex Bak. in Fl. Trop. Afr. II, p. 112 (1871). *T. Hookeriana* Bak. in Fl. Brit. Ind. II, p. 113 (1879) non W. & A. **Ela-pila,** *S.*

*Page* 33.—

9. **SESBANIA** *Scop.*

Flowers under 0·75 in. long; buds straight:
  Pods twisted, pendulous, 6–9 in. long; fls. 0·5–0·6 in. long; standard with 2 long-tailed appendages at the base which run as keels into the claw; small tree; stem unarmed; leaflets 20–30 . . . . 1. S. ÆGYPTIACA.
  Pods not twisted, erect or ascending; fls. not exceeding ⅜ in.; annuals with woody stems:
    Stems unarmed; leaflets 35–100:
      Leaves and branches sericeous tomentose; pods 6 in. long; leaflets ¾–1½ in. long . *S. sericea.*

Leaves and branches glabrous; pods 2–4 in. long . . . . . . . 2. S. PALUDOSA.
Stems armed with weak prickles; pods 6–9 in. long; leaflets $\frac{1}{4}$–$\frac{5}{8}$ in. long . . 3. S. ACULEATA.
Flowers 3 in. long; buds recurved . . . . *S. grandiflora.*

1. **S. ægyptiaca** Pers. Syn. Pl. II, p. 316 (1807). *Æschynomene Sesban* Linn. Sp. Pl. p. 714 (1753) pp. *Sesbania Sesban* Merr. in Phil. Journ. Sc. Bot. VII, p. 235 (1912). *Æschynomena indica* Burm. f. Fl. Ind. p. 169 (1768) non Linn. *Sesbania indica* O. Ktze. Rev. Gen. p. 180 (1890).

Our wild (?) plant is var. *picta* Prain Journ. As. Soc. Beng. LXVI, p. 367 (1897). *S. picta* Pers. l. c. non Fl. Brit. Ind. *Æschynomene picta* Cav. Ic. IV, p. 7 (1791–1801).

I have also seen var. *bicolor* W. & A. Prodr. p. 214, which has the standard dark-maroon outside, as a casual near Poilakande Estate, Kadugannava.

Gamble (Kew Bull. 1920, p. 50) rejects the name *S. Sesban* as practically reduplicated.

S. SERICEA DC. Prodr. II, p. 266 (1825). *S. aculeata* var. *sericea* Benth. ex. Thw. Enum. p. 441 (1864). *Coronilla sericea* Willd. Enum. Hort. Berol. p. 773 (1809).

A plant originally described for the West Indies and found once by Ferguson near Colombo; as it is not known wild elsewhere in the old world it was probably an introduction.

2. **S. paludosa** Jacq. ex DC. Prodr. II, p. 265 (1825) nec Prain nec *Æschynomene paludosa* Roxb. *S. uliginosa* Sweet, Hort. Brit. p. 129 (1826). *Æschynomene uliginosa* Roxb. Hort. Beng. p. 56 (1814); Fl. Ind. III, p. 334 (1832).

A diffuse, semi-shrubby annual; branches unarmed, glabrous; leaf-rachis about 2 in. long, not stout, glabrous; leaflets about 40, $\frac{1}{5}$ in. long, linear-oblong, very shortly stalked, obtuse, mucronate, glabrous; fls. not seen; pods 2–4 in. erect, linear, beaked, subsessile in the axils of the leaves.

Illupai-kaduvai, in paddy fields.
Also in India.

3. **S. aculeata** Pers.

Add synonyms:

*Æschynomene aculeata* Schreb. in Nov. Act. Nat. Cur. IV, p. 134 (1770). *A. bispinosa* Jacq. Ic. III, p. 13 (1793). *A. spinulosa* Roxb. Fl. Ind. III, p. 333 (1832). *Coronilla cochinchinensis* Lour. Fl. Cochinch. II, p. 52 (1790). *Sesbania cochinchinensis* DC. Prodr. II, p. 266 (1825). *S. bispinosa* Spreng. ex. Steud. Nom., ed. 2, II, p. 572 (1841). *Agati cannabina* Adans. Fam. II, p. 326 (1763) non *S. cannabina* Poir.

S. GRANDIFLORA Pers.
Cultivated throughout India.

*Page* 35.—

## 10. **ZORNIA** *Gmel.*

Pods spinose:
 Leaflets lanceolate; pod 0·1 in. diam., scarcely exceeding the bracts; spines retrosely scabrous . . . . . . . . . 1. Z. DIPHYLLA.
 Leaflets ovate; pod 0·5 in. diam., as long as the bracts; spines glabrous . . . . . 2. Z. CONJUGATA.
Pods unarmed, reticulate-veined, under 0·1 in. diam., scarcely exceeding the bracts, leaflets ovate . . . . . . . . 3. Z. WALKERI.

1. **Zornia diphylla** Pers. Syn. Pl. II, p. 318 (1807).
Dambulla; near Pottuvil.

2. **Z. conjugata** Sm. im Rees. Cycl. XXXIX, no. 3 (1820). *Z. zeylonensis* Pers. Syn. Pl. II, 213 (1807); Gamble Fl. Madr. p. 325 (1918). *Hedysarum conjugatum* Willd. Sp. Pl. III, p. 1178 (1800).

Annual with many glabrous, wiry branches; leaves small; rachis about ½ in.; leaflets ovate, shortly stalked, unequal-sided, glabrous or hairy, mucronate; glands white if present; stipules lanceolate, acuminate; fls. sessile, enclosed in a pair of elliptic, unequalsided, acuminate, leaflike bracts; standard narrowed above the claw; pod about ¾ in. long, almost 0·2 in. diam., usually 4-jointed, spinose; spines glabrous.

Colombo; fls. yellow, veins red.
Also in S. India.

3. **Z. Walkeri** Arn. Pug. p. 12 (1836). *Z. diphylla* var. *Walkeri* Bak. in Fl. Brit. Ind. II, p. 147 (1879).

Annual with many prostrate branches, glabrous or adpressed pilose; leaves small; rachis about ½ in. long, leaflets ovate, shortly stalked, glabrous or hairy on the margin, unequal-sided, mucronate; stipules elongate-lanceolate, acuminate; fls. sessile, enclosed in a pair of elliptic, unequal-sided, acuminate, leaflike bracts; pods ⅓–½ in. long, under $\frac{1}{10}$ in. diam., usually 3–4 jointed, unarmed, reticulate-veined.

Common Craig, Bandaravela; Haputale; Badulla; Hevaheta; Jaffna; Colombo. Fls. all the year.
Endemic.

*Page* 36.—For *Stylosanthes mucronata* Willd. read:

**S. fruticosa** (Retz.) *Arachis fruticosa* Retz. Obs. V, p. 26 (1789). *Hedysarum hamatum* Linn. Sp. Pl., ed. 2, p. 1057 (1762) pp. non *S. hamata* Taub. *S. micronata* Willd. Sp. Pl. III, p. 1166 (1800).

*Page* 39.—For *Ormocarpum sennoides* DC. read:

**O. cochinchinense** Merr. in Phil. Journ. Sc. Bot. V, p. 76 (1910). *Diphaca cochinchinensis* Lour. Fl. Cochinch. p. 454 (1790). *O. sennoides* DC. Prodr. II, p. 315 (1825).

O. GLABRUM Prain in Journ. As. Berg. LXVI, p. 379 (1897); ?Teysm. and Binnend. in Nat. Tijdsche. Ned. Ind. XXVII, p. 56 (1864).

Pod 6–7-jointed; joints three times as long as broad, plicate, smooth.

A specimen from Anuradhapura with immature pods is probably this species, which may be only a cultivated form of the last. It is not however the plant cultivated as *O. glabrum* in the Peradeniya Gardens.

Also in Celebes and the Andamans.

*Page* 41.—For *Pycnospora hedysaroides* Br. read:

**P. lutescens** Schindl. in Journ. Bot. LXIV, p. 145 (1926). *Hedysarum lutescens* Poir. in Lamk. Encycl. VI, p. 417 (1804). *Pycnospora hedysaroides* R. Br. in W. & A. Prodr. p. 117 (1834).

*Page* 42.—

18. **URARIA** *Desv.*

Add to key:

Leaflets 5–9:
  Leaflets linear; pedicel clothed with short bristles 1. U. PICTA.
  Leaflets oblong; pedicel without bristles . . *U. crinita.*

*Page* 43.—

2. **Uraria hamosa** Wall.
Poilakande Estate, Kadugannava (T. B. Worthington).

1. **Alyssicarpus monilifer** DC.
Bintenna.

*Page* 45.—

20. **DESMODIUM** *Desv.*

Add to key:

Bracts small, setaceous:
  Upper margin of pod slightly notched:
    Leaflets subacute, acuminate . . . 13. D. WIGHTII.
    Leaflets obtuse, not acuminate . . . *D. cajanæfolium.*
  Both margins of pod equally notched:
    Leaves densely pubescent beneath . . *D. leiocarpum.*
    Leaves sparingly pubescent beneath . . *D. tortuosum.*

*Page* 48.—For *D. laburnifolium* DC. read:

5. **D. caudatum** DC. Prodr. II, p. 337 (1825). *D. laburnifolium* DC. l. c. *Hedysarum caudatum* Thunb. Fl. Jap. p. 281 (1784). *H. laburnifolium* Poir. Encycl. VI, p. 422 (1854).

*Page* 49.—

7. **D. ormocarpoides** DC.
Hantane.

**Part II.**

*Page* 50.—For *D. Gardneri* Bth. read:

8. **D. laxum** DC. in Ann. Sc. Nat., Sér. I, IV, p. 102 (1825). *D. Gardneri* Bth. Pl. Jungh. p. 226 (1853).
Kandy.

*Page* 52.—For *D. diffusum* DC. read:

D. TORTUOSUM DC. Prodr. II, p. 332 (1825); Petch, in Ann. Perad. VII, p. 328 (1922). *Hedysarum purpureum* Mill. Gard. Dict., ed. 8 (1768). *H. tortuosum* Sw. Prodr. p. 107 (1788). *Desmodium diffusum* Trim. Fl. Ceyl. II, p. 52 (1894) non DC. *Meibomia purpurea* Vail. in Small, Fl. S.E.U.S. p. 639 (1903). *Desmodium purpureum* Fawc. & Rendle, Fl. Jam. IV, 2, p. 36 (1920) non Hk. & Arn.
Kandy (1916).
Native of Tropical America.

*Page* 55.—For *D. parvifolium* DC. read:

19. **D. microphyllum** DC. Prodr. II, p. 337 (1825). *Hedysarum microphyllum* Thunb. Fl. Jap. p. 284 (1784). *H. tenellum* Don Prodr. Fl. Nep. p. 243 (1825) non Kunth. *D. parvifolium* DC. Prodr. II, p. 337 (1825).

*Page* 57.—

2. **Abrus pulchellus** Wall.
Kurz (Journ. As. Soc. XLV, 1876, p. 240) states that the Ceylon plant has larger seeds than the Burma one.

*Page* 60.—

2. **Teramnus mollis** Benth. in Journ. Linn. Soc. VIII, p. 265 (1865). *T. labialis* Trim. Fl. Ceyl. II, p. 60 (1894) pp. *T. labialis* var. *mollis* Bak. in Fl. Brit. Ind. II, p. 184 (1879).

As *T. labialis*, but leaflets lanceolate-elliptic, longer; racemes shorter, more crowded, densely villous; pod villous.

Low country; common.
Also in S. India.

*Page* 62.—For *Mucuna pruriens* DC. read:

4. **M. prurita** Hk. Bot. Misc. II, p. 348 (1831); Gamble Fl. Madr. p. 856 (1918). *M. pruriens* Trim. Fl. Ceyl. II, p. 62 (1894) non DC.

*Page* 63.—

27. **ERYTHRINA** *Linn.*

Calyx spathaceous, split on one side . . . 1. E. VARIEGATA.
Calyx not spathaceous, splitting into 2 lips:
Pod turgid and seed-bearing throughout its whole length:
Leaflets oblong . . . . . . . 2. E. FUSCA.
Leaflets broadly ovate . . . . . . *E. suberosa.*
Pod flat, seedless and indehiscent in the lower half . . . . . . . . *E. lithosperma.*

*Page* 63.—For *E. indica* Lamk. read:

1. **E. variegata** Linn. in Stickm. Herb. Amb. p. 122 (1754). *E. Corallodendron* Linn. Sp. Pl. p. 706 (1753) pp. *Tetradapa javanorum* Osbeck, Dagbok Ostind. Resa, p. 93 (1757). *E. Corallodendron* var. *orientalis* Linn. Sp. Pl., ed. 2, p. 993 (1763). *E. picta* Linn. l. c. *E. indica* Lamk. Encycl. II, p. 391 (1786). *E. orientalis* Murr. Comm. Gott. VIII, p. 35 (1787). *E. lithosperma* Bl. Cat. Gew. Buit. p. 92 (1823) nomen, non Miq. **Era-mudu,** *S.*

The name *E. Corallodendron* is now restricted to the American plant and *E. variegata* must be adopted, though it was only applied to a variegated variety.

*Page* 64.—For *E. ovalifolia* Resch. read:

2. **E. fusca** Lour. Fl. Cochinch. p. 427 (1790). *E. ovalifolia* Roxb. Fl. Ind. III, p. 254 (1832).

*Page* 64.—For *E. lithosperma* Bl. read:

E. LITHOSPERMA Miq. Fl. Ind. Bat. I, p. 209 (1855) non Blume. *E. subumbrans* Merr. in Phil. Journ. Sc. Bot. V, p. 113 (1910). *Hypophorus subumbrans* Hassk. Hort. Bogor. Descr. p. 197 (1858).

Blume's name was published without description and belongs to *E. variegata*. I see no need for Merrill's new name.

*Page* 65.—For *Strongylodon ruber* Vogel. read:

**S. lucidum** Seem. Fl. Viti, p. 61 (1865–8). *Glycine lucida* Forst. Prodr. p. 51 (1786). *S. ruber* Vogel, in Linnæa X, p. 585 (1836).

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### 30. BUTEA *Roxb.*

Erect tree; racemes 6 in. long . . . . . . B. MONOSPERMA.
Climber; racemes 12 in. long . . . . . . *B. superba.*

*Page* 66.—For *B. frondosa* Koen. read:

**B. monosperma** O. Ktze. Rev. Gen. p. 202 (1891). *Erythrina monosperma* Lamk. Encycl. I, p. 391 (1783). *B. frondosa* Koen. ex Roxb. in As. Research III, p. 469 (1792). **Murrakan,** *T.*

*Page* 67.—

### 31. CANAVALIA *DC.*

Pod 20 times as long as broad; leaflets acuminate; hilum $\frac{1}{10}$ circumference of seed; seeds white; plant erect . . . . . . . . *C. ensiformis.*
Pod 2–6 times as long as broad:
  Strongly climbing plants; with hilum $\frac{1}{3}$ circumference of seed; leaflets acuminate:
    Pod $1\frac{1}{2}$–2 in. broad; seeds red turning black . *C. gladiata.*
    Pod $\frac{1}{2}$–$1\frac{1}{4}$ in. broad; seeds dark brown . . 1. C. VIROSA.
  Creeping plants with hilum $\frac{1}{5}$ circumference of seed; leaflets rounded at the apex . . 2. C. PODOCARPA.

C. ENSIFORMIS DC. Prodr. II, p. 404 (1825). *Dolichos ensiformis* Linn. Sp. Pl. p. 1022 (1753).

Dry region rather common(?); fls. August.
Cultivated and naturalised in Ceylon (?) and various parts of the old world. Native of the West Indies.

C. GLADIATA DC. Prodr. II, p. 404 (1825); Piper & Dunn. in Kew Bull. 1922, p. 134. *Dolichos gladiatus* Jacq. Ic. Rar. t. 560 (1785-93).
Cultivated in Ceylon.

For *C. ensiformis* var. *virosa* read:

1. **C. virosa** W. & A. Prodr. II, p. 253 (1834). *Dolichos virosus* Roxb. Fl. Ind. III, p. 300 (1832). *C. ensiformis* var. *virosa* Bak. in Hk. f. Fl. Brit. Ind. II, p. 196 (1879).

As *C. ensiformis* but leaflets broader, more acuminate; veins less prominent; pods shorter and broader, 4 in. long by 1½ in. wide, oblong, 5–6 seeded; hilum ⅓ circumference of seed.

Moist low country up to 3000 ft.; common. Fls. December.
Also in India, China, Siam, Arabia, Socotra, Tropical Africa and the Mascarene Is.

*Page* 68.—For *C. obtusifolia* DC. read:

2. **C. podocarpa** Dunn. in Kew Bull. 1923, p. 137. *C. obtusifolia* Trim. Fl. Ceyl. II, p. 68 (1894) non DC. *C. lineata* Auct. non DC.
Also in S. India.

*Page* 68.—For *Dioclea reflexa* Hk. f. read:

**D. javanica** Benth. Pl. Jungh. p. 236 (1853); Prain in Journ. As. Soc. Beng. LXVI, p. 419 (1897). *D. Fergusonii* Thw. Enum. p. 412 (1864). *D. reflexa* Trim. Fl. Ceyl. II, p. 68 (1894) non Hk. f.
Our plant is this species and not *D. reflexa* according to Prain.
Also in Burma and Malaya.

*Page* 70.—

1. **Phaseolus adenanthus** Mey. **Karalsona,** *T.* (Gamble).

For *P. semierectus* Linn. read:

3. P. LATHYROIDES Linn. Sp. Pl., ed. 2, p. 1018 (1762). *P. semierectus* Linn. Mant. I, p. 100 (1767).

*Page* 71.—

5. **P. aconitifolius** Jacq. **Tulka-pavir,** *T.* (Gamble).
Polonnaruva; Gal-modua.

*Page* 72.—For *P. Max* L. read:

Plant erect . . . . . . . . . . 6. P. AUREUS.
Plant procumbent or twining . . . . . 6a. P. MUNGO.

6. **P. aureus** Roxb. Hort. Beng. p. 55 (1814) nomen; Fl. Ind. ed. 2, III, p. 297 (1852); Merr. Interp. Rumph. p. 283 (1917). *P. Mungo* Bak. in Fl. Brit. Ind. I, p. 203 (1879) non Linn. *P. Max* Trim. Fl. Ceyl. II, p. 72 (1894) ?Linn. *P. radiatus* Prain, in Journ. As. Soc. Beng. LXVI, p. 422 (1897) non Linn. Mung-Bean or Green Gram.

6a. **P. Mungo** Linn. Mant. p. 101 (1767); Prain l. c. p. 423. *P. Mungo* var. *radiatus* Bak. l. c. p. 203 (1879). *P. Max* var. *radiatus* Trim. l. c. p. 72 (1894). *P. radiatus* Roxb. Fl. Ind. III, p. 296 (1832) non Linn. Black Gram.

For *P. trinervius* Heyne read:

7. **P. radiatus** Linn. Sp. Pl. p. 725 (1753); Merr. Interp. Rumph. p. 283 (1917). *P. sublobatus* Roxb. Fl. Ind. III, p. 288 (1832); var. *typica* Prain l. c. p. 423 (1897). *P. trinervius* Heyne in Wall. Cat. no. 5603 (1830); W. & A. Prodr. p. 245 (1834). *P. trilobus* Ind. Kew pp. non Ait. ?*P. farinosus* Linn. **Pani-payir,** *T.* (Gamble).

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### 34. VIGNA *Savi.*

Keel not prolonged into a beak:
Climbing or creeping plants:
Leaves elliptic or obovate, rounded at the apex . . . . . . . 1. V. MARINA.
Leaves ovate, acute or subacute:
Pod short, up to $2\frac{1}{2}$ in.; fls. yellow . . *V. luteola.*
Pod long, up to 3 ft., pendent; fls. usually blue:
Seeds subreniform to subglobose; pods green, 8–12 in. long . . . . *V. sinensis.*
Seeds elongate-reniform; pods white, 1–3 ft. long . . . . . *V. sesquipedalis.*
Suberect plant; pods erect . . . . *V. cylindrica.*
Keel prolonged into a beak . . . . 2. V. VEXILLATA.

For *V. luteola* Benth. read:

1. **V. marina** Merr. Interp. Rumph. p. 285 (1917). *Phaseolus marinus* Burm. Ind. Univ. Herb. Amb. VII, p. 17 (1755). *Dolichos luteus* Sw. Prodr. p. 105 (1788). *Vigna lutea* A. Gray, Bot. U.S. Expl. p. 452 (1854). *V. luteola* Benth. ex Thw. Enum. p. 90 (1859) nomen, non Benth. in Mart. Fl. Bras. *V. retusa* Walp. Rep. I, p. 778 (1842); Ind. Kew, II, p. 1199 (1895).
Matara.

V. LUTEOLA Benth. in Mart. Fl. Bras. XV, p. 194 (1859). *Dolichos luteolus* Jacq. Hort. Vindob. I, p. 39 (1770). *V. glabra* Savi Mem. Phas. III, p. 8 (1826?); Ind. Kew, l. c.
This species is given for Ceylon (Thwaites) in Fl. Brit. Ind. probably by mistake, *V. marina* or *Phaseolus calcaratus* being taken for it.

V. SINENSIS Endl. ex Hassk. Pl. Jav. Rar, p. 386 (1848). *Dolichos sinensis* Linn. Cent. Pl. II, p. 28 (1756). *V. unguiculata* Walp. Rep. I, p. 779 (1842); Piper in U.S. Dept. Afric. Bur. Pl. Ind. Bull. no. 229, p. 8 (1912) non *Dolichos unguiculatus* Linn. Cow-pea.
Cultivated.

V. SESQUIPEDALIS W.F. Wt.; Piper l. c. p. 8 *Dolichos sesquipedalis* Linn. Sp. Pl., ed. 2, p. 1019 (1762). Asparagus-bean.
Less commonly cultivated.

For *V. catiang* Walf. read:

V. CYLINDRICA Skeels, in U.S. Dept. Agric. Bur. Pl. Ind. Bull.

no. 282, p. 32 (1913). *Phaseolus cylindricus* Linn. Amœn. Acad. IV, p. 132 (1759). *Dolichos Catiang* Linn. Mant. II, p. 269 (1771). *Vigna catiang* Walp. in Linnæa XIII, p. 533 (1839).

### 35a. CENTROSEMA *Benth.*

Perennial twining herbs; lvs. trifoliolate, with stipellæ; fls. solitary or racemose, inverted, bracteolate; calyx campanulate; standard spurred on the back; style dilated at apex; pod beaked, ribbed.—Sp. 30; Natives of Tropical America.

Bracteoles twice as long as the calyx; ribs of pod $\frac{1}{10}$ in. from margin . . . . . . . 1. *C. Plumieri.*
Bracteoles scarcely exceeding calyx; ribs of pod close to margin . . . . . . . 2. *C. pubescens.*

1. C. PLUMIERI Benth. Comm. Leg. Gen. p. 54 (1837); Fawc. & Rendle Fl. Jam. IV, 2, p. 44 (1920). *Clitoria Plumieri* Turp. ex Pers. Syn. II, p. 303 (1807); Bot. Reg. IV, t. 268.

Stems glabrous; leaflets ovate, hairy only on the under surface of the veins; standard hairy on back; pod 6 in. long, ½ in. broad.

Moist low country, naturalised. Fl. Apr., Sept.; white with a reddish blotch on the standard.
Colombo.
Native of Trop. America.

*Page* 75.—For *Periandra Berteriana* Benth. read:

2. C. PUBESCENS Benth. Comm. Leg. Gen. p. 55 (1837); Fawc. & Rendle Fl. Jam. IV, 2, p. 456 12 (1920). *Periandra Berteriana* Trim. Fl. Ceyl. II, p. 75 (1894) non Benth.

Stems pubescent; leaflets elliptic, pubescent beneath; fls. smaller than *C. Plumieri;* standard hairy on the back; pod up to 6 in. long, ¼ in. broad.

About Kandy. Fl. Apr., Oct., Jan.
Native of Trop. America.

### 36. **DOLICHOS** *Linn.*

Add to key:

Fl. yellow:
Pods rounded, few-seeded, ciliate . . . *D. Hosei.*
Pods compressed:
Pods glabrous; stem twining; perennial . 2. D. BIFLORUS.
Pods pubescent; stem erect or twining; annual . . . . . . . . . *D. uniflorus.*

*Page* 76.—For *D. Lablab* Linn. read:

Pod broad; leaflets . . . . . . . 1. **D. lignosus.**
Pod narrow . . . . . . . . *D. Lablab.*

1. **D. lignosus** Linn. Sp. Pl. p. 726 (1753); Prain in Journ. As. Soc. Beng. LXVI, p. 430 (1897). *D. Lablab* Trim. Fl. Ceyl. II, p. 76 (1894) non Linn. *Lablab cultratus* DC. Prodr. II, p. 402 (1825).
This is the wild plant to which Trimen's description applies.

D. Lablab Linn. Sp. Pl. p. 725 (1753); Prain l. c. *Lablab vulgaris* Savi Diss. p. 19 (1821). *D. cultratus* Forsk. Fl. Ægypt. Arab. p. 134 (1775). *L. cultratus* Trim. Fl. Ceyl. II, p. 76 (1894) non DC.

D. Hosei Craib in Kew Bull. 1914, p. 76. *Vigna Hosei* Backer, Geïllustreerd Handboek der Javaansche Theeonkruiden p. 153 (1924). *Vigna oligosperma* Backer l. c. in syn.
Native of Java and Borneo.
Now extensively grown as a cover crop under old rubber.

*Page* 76.—For *D. uniflorus* Lam. read:

2. **D. biflorus** Linn. Sp. Pl. p. 727 (1753) non Trim. *D. uniflorus* var. *glabra* Thw. ex Trim. Fl. Ceyl. II, p. 76 (1894). ?*D. ciliatus* Klein, in Willd. Sp. Pl. III, p. 1049 (1800).

*Page* 77.—For "*D. biflorus* L. is an annual cultivated form of *D. uniflorus*" read:

*D. uniflorus* Lamk. is an annual, cultivated species allied to *D. biflorus* Linn.

*Page* 78.—For *Atylosia Candollei* W. & A. read:

**A. trinervia** Gamble Fl. Madr. p. 368 (1918). *Odonia trinervia* Spr. Syst. Suppl. p. 279 (1828). *Cantharospermum trinervium* Taub. in Eng. Nat. Pfl. III, 3, p. 373 (1894).

*Page* 80.—For *Cajanus indicus* Spr. read:

C. inodorus Medic. in Vorles Churpf. Phys. Ges. II, p. 363 (1787) sub *Cajan*. *Cytisus cajan* Linn. Sp. Pl. p. 739 (1753). *Cajanus pseudo-cajan* Jacq. Hort. Vindob. II, p. 54 (1772). *Cajanus bicolor* DC. Cat. Hort. Monsp. p. 85 (1813). *C. indicus* Spr. Syst. III, p. 248 (1826). *Cajanum Thora* Raf. Sylv. Tellur p. 25 (1838). *Cajan Cajan* Huth, in Helios XI, p. 133 (1893). *Cajanus Cajan* Merr. in Phil. Journ. Sc. Bot. V, p. 217 (1910).
*C. Cajan* Millsp. and *C. pseudo-cajan* Jacq. involve what might be considered reduplications and are therefore not adopted.

*Page* 80.—

2. **Dunbaria Heynei** W & A.
Fl. Oct., Dec., Jan.; yellow with a purple blotch on the back of the standard.

*Page* 81.—

40. **RHYNCHOSIA** *Lour.*

Add to key:

Pod 2-seeded:
Prostrate herb . . . . . . *R. aurea.*
Erect shrubs . . . . . . . R. suaveolens, R. cana.

*Page* 84.—For *Rhynchosia cyanosperma* Benth. read:

5. **R. albiflora** (Sims). *Cylista albiflora* Sims, Bot. Mag. XII, t. 1859 (1816). *Cylista tomentosa* Roxb. Cor. Pl. III, 221 (1819) non *R. tomentosa* Hk. & Arn. *R. cyanosperma* Benth. ex Bak. in Fl. Trop. Afr. II, p. 212 (1817).

Baker describes the African plant as red flowered, the Ceylon and Mascarene plants have yellowish-white flowers, occasionally with purplish stripes.

*Page* 87.—For *Flemingia congesta* Roxb. read:

Racemes sessile, condensed, shorter than the petioles; young branches 4-angled; leaflets acuminate, glabrous above; petioles not winged . . . . . . . . . 3. F. MACROPHYLLA.
Racemes stalked, elongated, usually exceeding the petiole:
  Leaves tomentose beneath; leaflets obtuse, sparsely adpressed pilose above . . . 4. F. WIGHTIANA.
  Leaves pubescent only on the nerves beneath; leaflets acuminate, truncate at the base, glabrous above . . . . . . 5. F. SEMILATATA.

3. **F. macrophylla** O. Ktze. ex Prain, in Journ. As. Soc. Beng. LXVI, p. 440 (1897). *Crotalaria macrophylla* Willd. Sp. Pl. III, p. 982 (1800). *Flemingia congesta* Roxb. ex DC. Prodr. II, p. 351 (1825); Trim. Fl. Ceyl. II, p. 87, excl. var. *semialata*. *Rhynchosia crotalariodes* DC. Prodr. II, p. 387 (1825).

Low country; rather common? Ambagamuva, near the Maskeliya River; Kitulgala; Agalavatte; Fls. Feb., Nov., Jan.; flesh coloured with purple streaks (Kurz).

Also in India, Burma and Malaya.

4. **F. Wightiana** Grah. in Wall. Cat. 5751 (1830); W. & A. Prodr. p. 242 (1834); Prain, l. c. p. 441 (1897).

An erect shrub, 16 in. high; young branches striate, somewhat 4-angled, puberulous; leaves 3-foliolate; rachis $1$–$1\frac{1}{2}$ in., sulcate above, slightly winged; stipules narrowly subulate, subpersistent; leaflets on very short, densely hairy stalks, $3$–$4\frac{1}{2}$ in. long, $1$–$1\frac{3}{4}$ in. broad, lanceolate or ovate-lanceolate, less rounded at the base than in *F. macrophylla*, not tapering and rather obtuse at the apex, sparsely adpressed hairy above, rather densely pubescent beneath; fls. on short pedicels, crowded in dense stalked racemes 2 in. long; bracts caducous; calyx densely adpressed hairy, segments linear, lowest segments much longer than the others; pods $\frac{3}{8}$ in. oblong ovoid, inflated and 2 seeded.

Low country; rare? Badulla; Batticaloa. Fls. March.

Also in S. India.

5. **F. semialata** Roxb. Fl. Ind. III, p. 340 (1832). *F. congesta* var. *semialata* Bak. in Fl. Brit. Ind. II, p. 229 (1879) pp.; Trim. Fl. Ceyl. II, p. 87 (1894).

An erect shrub, 2 ft. (?) high; young branches striate, somewhat triangular, adpressed pubescent; leaves 3-foliolate; rachis up to 2½ in. long, sulcate above, more broadly winged than in *F. Wightiana;* stipules sub-deltoid, caducous; leaflets on short, densely hairy stalks, 2½–4½ in. long 1–1½ in. broad, elliptic-lanceolate, truncately cuneate at the base, acuminate and cuspidate at the apex, glabrous except on the nerves beneath; fls. subsessile or shortly pedicellate, in long stalked racemes; bracts broad, ovate-lanceolate, acuminate, caducous; calyx densely adpressed pubescent; pods nearly ½ in. long, broadly oblong-ovoid, inflated.

Low country; rare? Colombo. Fls. pale pink.
Also in India.

42. **DALBERGIA** *Linn. f.*

Stam. 9, monadelphous :
  Climber; calyx pubescent . . . . . 1. D. PSEUDO-SISSOO.
  Tree; calyx glabrous . . . . . . *D. latifolia.*
Stam. 10, in 2 bundles of 5 each :
  Tree, pod straight . . . . . . 2. D. LANCEOLARIA.
  Climbers :
    Pod straight . . . . . . *D. volubilis.*
    Pod falcate . . . . . . 3. D. CANDENATENSIS.

*Page* 88.—For *D. Championii* Thw. read :

1. **D. pseudo-sissoo** Miq. Fl. Ind. Bat. I, p. 128 (1855). *D. diversifolia* Bl. ex Miq. l. c. *D. radiata* Grah. in Wall. Cat. no. 5867 (1832) nomen; Prain, in Journ. As. Soc. Beng. LXX, p. 45 (1901); in Ann. Calc. X, p. 60 t. 36 (1904). *D. Championii* Thw. Enum. p. 94 (1859).
Hakgala; Haputale; Ritigala.
Also in Malaya.

2. **D. lanceolaria** Linn. f.; Prain, l. c. p. 93, t. 76. *D. zeylanica* Roxb. Fl. Ind. III, p. 228 (1832). **Bol-mara,** *S.* (F. Lewis); **Erigei,** *T.* (Gamble); **Kugala-vargai,** *T.* (F. Lewis, locally in E.P.).
Hambantota (F. Lewis).

*Page* 89.—For *D. monosperma* Dalz. read :

3. **D. candenatensis** Prain, in Journ. As. Soc. Beng. LXX, p. 49 (1901). *Cassia candenatensis* Dennst. Schl. Hort. Malab. p. 12 (1818). *D. monosperma* Dalz. in Kew Journ. Bot II, p. 36 (1850). *D. torta* Grah. in Wall. Cat. no. 5873 (1832) nomen; A. Gray in Bot. U.S. Expl. Exped. I, p. 458 (1854); Prain in Ann. Calc. X, p. 64 t. 42.
Also throughout S.E. Asia and in Oceania.

*Page* 90.—

**Pterocarpus Marsupium** Roxb. **Utera-venkai,** *T.*
**Part II.**

*Page* 91.—For *Pongamia glabra* Vent. read:

**P. pinnata** Merr. Interp. Rumph. pp. 254, 271 (1917). *Cytisus pinnatus* Linn. Sp. Pl. p. 741 (1753). *Robinia mitis* Linn. l. c. p. 1044. *Pongamia glabra* Vent. Jard. Malm. t. 28 (1803). *P. mitis* Kurz, in Journ. As. Soc. Beng. XLV, p. 128.

Var. **xerocarpa** Prain, in Journ. As. Soc. Beng. LXVI, p. 456 (1897) sub *P. glabra*. *P. xerocarpa* Hassk. in Retzia, ed. nov., p. 208 (1856).

Leaflets 7–9, lanceolate; infl. branched; bracteoles opposite and close under the calyx.

Also in Malaya.

Prain remarks " it is in general appearance, so unlike the type that there is some difficulty at first in believing them to be conspecific.

1. **Derris scandens** Benth. **Bo-kalavel,** *S.* **Welan-tekel,** *T.*

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2. **D. parviflora** Benth. **Sudu-kalavel,** *S.*
Habarane.

*Page* 92.—

3. **D. uliginosa** Benth.
Prain (Journ. As. Soc. p. 458) states that the Ceylon plant is distinct from *D. trifoliata* Lour., to which it has been reduced by some authors.

*Page* 93.—For *D. paniculata* Bth. read:

4. **D. Benthamii** Thw. Enum. p. 412 (1864). *Brachypterum Benthamii* Thw. Enum. p. 93 (1859). *Derris paniculata* Benth. in Journ. Linn. Soc. IV, Suppl. p. 105 (1860). **Han-kalavel,** *S.* **Karapu-tekel,** *T.*

Dry region, rather common. Haberane; Kantelai; Trincomalee; near Heneratgoda; near Lihingahatota.

Also in S. India.

This is the species usually used for poisoning fish.

*Page* 93.—For *D. oblonga* Benth. read:

5. **D. canarensis** Bak. in Fl. Brit. Ind. II, p. 246 (1879); Gamble, Fl. Madr. p. 387 (1918). *Pongamia canarensis* Dalz. in Kew Journ. II, p. 37 (1850). *Derris oblonga* Benth. in Journ. Linn. Soc. IV, Suppl. p. 112 (1860). **Kalu-kalavel,** *S.*

*Page* 94.—For *D. sinuata* Bth. read:

6. **D. heptaphylla** Merr. Interp. Rumph. p. 273 (1917). *Sophora heptaphylla* Linn. Sp. Pl. p. 373 (1753). *Pterocarpus diadelphus* Blanco, Fl. Filip. p. 563 (1837). *D. sinuata* Bth. ex Thw. Enum. p. 93 (1859). *D. diadelphus* Merr. in Phil. Journ. Sc. Bot. V, p. 103 (1910).

## II.—Cæsalpinieæ.

Add to key:

Sepals imbricate . Cæsalpinia, Peltophorum, Mezoneurum.
Sepals valvate . 50a. *Parkinsonia.*

Add to key:

Pet. 5:
Stamens united, only 3 fertile . . . . *Tamarindus.*
Stamens free, 5 . . . . . . . 56. Humboldtia.

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### 18. **CÆSALPINIA** *Linn.*

Pod very spiny:
Leaflets obtuse, often emarginate; stipules leafy, caducous; seeds subglobose; infl. dense with squarrose bracts . . . . 1. C. Bonducella.
Leaflets acute, acuminate; stipules wanting; seeds oblong-elliptic; infl. less dense with straight bracts . . . . . . 2. C. Bonduc.
Pod not spiny:
Leaflets 2–3 pairs to each pinna, ovate, acute, up to 2 in. long . . . . . 3. C. Nuga.
Leaflets 6–30 pair up to 1 in. long:
Pedicels about 1 in long; leaflets 6–20 pair:
Leaflets more or less equal-sided, rounded at the base; pod oblong, up to $1\frac{1}{4}$ in. broad.
Plant prickly; climbers:
Lfts. 6–9 pair . . . . . . 4. C. decapetala.
Lfts. 10–12 pair . . . . . . 5. C. digyna.
Plant without prickles; erect . . *C. pulcherrima.*
Leaflets very unequal-sided; almost square at the base; climber . . . . *C. mimosoides.*
Pedicels under $\frac{1}{4}$ in.; leaflets 25–30 pair; infl. paniculate . . . . . . *C. coriaria.*

**C. Bonducella** Flem. As. Res. XI, p. 159 (1810); Roxb. Fl. Ind., ed. 2, II, p. 357 (1832); Baker in Fl. Brit. Ind. II, p. 254 (1878); Trim. Fl. Ceyl. II, p. 99 (1894); Petch in Ann. Perad. IX, p. 299 (1925). *C. crista* Linn. Sp. Pl. p. 380 (1753) pp. excl. syn. Fl. Zeyl. no. 157 pp., Herm. Zeyl. 12, non ed. 2, p. 544 (1762) nec aliorum; Urban Symb. Antill. II, p. 269 (1900); Merrill in Phil. Journ. Sc. Bot. V, p. 53 (1910); Interp. Rumph. p. 260 (1917); Gamble Fl. Madr. p. 393 (1919). *Guilandina Bonduc* Linn. l. c. p. 381; ed. 2, p. 545?; Moon Cat. p. 34 (1824); Wight & Arnott, Prodr. p. 280 (1834). *G. Bonducella* Linn. l. c. ed. 2, p. 545 (1762). *Glycyrhiza aculeata* Forsk. Fl. Ægypt. Arat. p. 135 (1775). *Guilandina gemina* Lour. Fl. Cochinch. p. 265 (1790). *Cæsalpinia Bonduc* Trim. Fl. Ceyl. II, p. 98 (1894) pp. non Roxb. *Guilandina Jayabo* var. *cyanosperma* Maza, in Anal. Soc. Esp. Hist. Nat. XIX, p. 234 (1890). *Guilandina crista* Small, Fl. S.E.U.S. p. 591 (1903).

**Kumburu** (seeds), **Kumburu-vel** (plant), *S.*

The name *C. crista* Linn. is sometimes used for this plant and antedates *C. Bonducella,* but the first citation is Hermann's plant which is *C. Nuga* which the name also antedates.

Trimen's description is mostly this which seems to be the common plant; but read:

Stipules foliaceous, usually with 2 leaflets, caducous; leaflets oblong-elliptic; pods $2\frac{1}{2}$–$2\frac{3}{4}$ in.; seeds usually 2.

Low country; especially near the sea coasts, rather common, scrambling over trees and bushes. Small-pox Island, Jaffna; Dediwela; Kalutara; Puttalam.

Called " Fever Nut " in India.

Also throughout the Tropics.

1a. **C. Bonduc** Roxb. Fl. Ind. II, p. 362 (1832), excl. syn. *G. Bonduc.* Linn.; Baker in Fl. Brit. Ind. II, p. 255 (1878); Trimen Fl. Ceyl. II, p. 98 (1894) pp. ?Urban Symb. Antill. II, p. 272 (1900); ?Fawcett & Rendle Fl. Jamaica IV, 2, p. 92 (1920); Petch in Ann. Perad. IX, p. 229 (1925). *Guilandina Bonducella* Linn. Sp. Pl., ed. 2, p. 545 (1762) pp.; Lour. Fl. Cochinch. p. 265 (1790); Moon Cat. p. 34 (1824). *G. Bonduc* var. *majus* DC Prodr. II, p. 480 (1825). *G. Bonduc* Wight & Arnott, Prodr. p. 280 (1834) pp. *Cæsalpinia Jayabo* Maza, in An. Soc. Esp. Hist. Nat. XIX, p. 234 (1890); Merrill, Interp. Rumph. p. 261 (1917); Gamble, Fl. Madr. p. 394 (1919). *C. glabra* Merrill, in Phill. Journ. Sc. Bot. V, p. 54 (1910) non *G. glabra* Mill. *Guilandina major* Small, Fl. S.E.U.S. p. 591 (1903). **Kalu-vavul-etiya,** *S.* (Moon). **Kumburu-vel,** *S.* (Thwaites).

As the last species, but stipules wanting; leaflets elliptic, acuminate, mucronate; infl. less dense, with straight bracts; fls. sessile (in bud); pods large, 4–5 in. long, 2 in. broad, oblong, compressed; spines more scattered; seeds about 4, oblong-ellipsoid.

Low country in boggy places (Moon); rather rare? Kalutara (Moon); Peradeniya (Thwaites); Nalande.

Also in S. India and Malaya.

The specimen collected by Thwaites is this species, but no doubt he confused them, hence his *S.* name. I doubt if the American plant is this species, it sounds much nearer *C. Bonducella.*

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C. PULCHERRIMA Sw. Obs. Bot. p. 166 (1791).
Wild near stream at Alutoya, near Habarana.

*Page* 100.—For *C. sepiaria* Roxb. read:

3. **C. decapetala** (Roth). *Reichardia decapetala* Roth, Nov. Sp. p. 212 (1821). *C. sepiaria* Roxb. Hort. Beng. p. 32 (1814) nomen; Fl. Ind. II, p. 360 (1824).

*Page* 101.—For *Peltophorum ferrugineum* Bth. read:

**P. inerme** Naves, in Blanco Fl. Filip. ed. 3, t. 335 ex F. Vill. Novis. App. p. 69 (1880). *Cæsalpinia inermis* Roxb. Fl. Ind. II,

p. 367 (1832). *C. ferruginea* Dcne. in Nouv. Ann. Mus. Par. III, p. 462 (1834). *C. Gleniei* Thw. p. 414 (1864).

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50. **MEZONEURUM** *Desf*

Leaflets glabrous beneath . . . . . 1. M. FURFURACEUM.
Leaflets glabrous tomentose beneath . . 2. M. PUBESCENS.

*Page* 102.—For *M. enneaphyllum* W. & A. read:

**M. furfuraceum** Prain, in Journ. As. Soc. Beng. LXVI, p. 471 (1897). *M. glabrum* Bak. in Fl. Brit. Ind. II, p. 258 (1879); ?Desf. in Mem. Par. IV, p. 246 t. 10 (1815). *Cæsalpinia furfuracea* Wall. Cat. no. 5855 (1830). *M. enneaphyllum* Thw. Enum. p. 414 (1864); Bak. in Fl. Brit. Ind. II, p. 258 pp.; Trim Fl. Ceyl. II, p. 102 non W. & A.

Prain states that *M. glabrum* Desf. (*M. latisiliquum* Merr.) has alternate pinnules, equal at the base. I think that it is doubtfully distinct, but have seen no specimens.

Also in Burma.

2. **M. pubescens** Desf. in Mem. Mus. Par. IV, p. 246 t. 11 (1818); Bak. in Fl. Brit. Ind. II, p. 259; Prain in Journ. As. Soc. Beng. LXVI, p. 472 (1897). *M. hymenocarpum* W. & A. Prodr. p. 283 (1834); Prain, in Journ. As. Soc. Beng. LXVI, 472 (1897).

As the last species, but stems densely pubescent; pinnæ and the leaflets opposite (?or alternate); main rachis more thickly set with thorns; leaflets smaller, densely pubescent beneath; pods not seen.

Rare? Morove Korale; Trincomalee (?). Fl. Sept.

Also in India and Malaya.

Prain refers a specimen distributed by Thwaites as *Cæsalpinia Gleinei* to *M. hymenocarpum* W. & A. which has alternate leaflets, and pods with remote seeds.

50a. PARKINSONIA *Linn.*

A small tree; leaves bipinnate, main rachis very short, prolonged into a spine; lateral pinnæ long, flattened; leaflets minute, deciduous; inflorescence racemose; calyx 5-lobed, lobes sub-equal; pod narrow.—Sp. 3–4, natives of America and Africa.

P. ACULEATA Linn. Sp. Pl. p. 375 (1753). **Mulvakai,** *T.* (J. P. Lewis).

A small tree; pinnæ dark green; l. about 1 ft. long; leaflets $\frac{1}{10}$ in. long; racemes lax; flowers yellow, with a red spot on one petal, on pedicels about $\frac{1}{2}$ in. long; pod $1\frac{1}{2}$–$2\frac{1}{2}$ in. long, longitudinally wrinkled, containing one or more seeds.

Cultivated and often found wild about Jaffna, Mannar and Hambantota.

Native of Tropical America.

## 51. **CASSIA** *Linn.*

Pods over 8 inches long, terete:
  Leaflets 4–6; fls. pale yellow . . . 1. C. FISTULA.
  Leaflets 20–30; fls. pink . . . . 2. C. MARGINATA.
Pod flattened or under 4 inches long:
  Three upper stam. barren; flowers yellow:
    Petiole with one gland at base:
      Leaflets 8–10:
        Leaflets glabrous; petiole purplish . 3. C. OCCIDENTALIS.
        Leaflets hairy; petiole green . . 5a. *C. hirsuta.*
      Leaflets 12–20 . . . . . . 4. C. SOPHERA.
    Petiole with glands between one or more pairs of leaflets:
      Leaflets 4–10, subglabrous:
        Leaflets obtuse:
          Pod long and narrow . . . 5. C. TORA.
          Pod short and thick . . . 5c. *C. bicapsularis.*
        Leaflets acuminate . . . . 5b. *C. lævigata.*
      Lfts. 12–24, pubescent:
        Stip. narrowly linear, caducous . *C. tomentosa.*
        Stip. broad, persistent . . . 6. C. AURICULATA.
    Petiole without glands:
      Pod winged . . . . . 6a. *C. alata.*
      Pod not winged:
        Lfts. 8–12; pod 1½ in. . . . 7. C. OBTUSA.
        Lfts. 12–20; pod 8–12 in. . . 8. C. SIAMEA.
        Lfts. 20–30; pod 4 in. . . . 9. C. TIMORIENSIS.
All stam. perfect:
  Stam. 5:
    Flowers pink; lfts. 4 . . . . 10. C. ABSUS.
    Flowers yellow; lfts. 20–40 . . . *C. pumila.*
  Stam. 10, flowers yellow:
    Shrubs or trees . . . . . *C. surattensis.*
    Herbs:
      Gland on petiole distinctly stalked . 11. C. KLEINII.
      Gland on petiole sessile:
        Leaflets 50 . . . . . 12. C. MIMOSOIDES.
        Leaflets 20 . . . . . 13. C. LESCHENAULTIANA.

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1. **C. Fistula** Linn. **Konnei,** *T.* (Gamble).

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3. **C. occidentalis** Linn. **Payaverai,** *T.* (Gamble).

4. **C. Sophera** Linn. **Ponaverai,** *T.* (Gamble).

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5. **C. Tora** Linn.
The description may include *C. toroides* Roxb. (*C. obtusifolia*) which Prain considered distinct.

5a. C. HIRSUTA Linn. Sp. Pl. p. 378 (1753); Prain, in Journ. As. Soc. Beng. LXVI, p. 474 (1897).

A coarse annual, 1–3 ft. high; stem pubescent, green; leaf-rachis about 6 in. long with a cylindrical gland at the base of the petiole; stip. linear, usually caducous; lfts. 6–10, almost sessile, 3½–4½ inches long, elliptic-lanceolate, hairy; flowers in axillary or terminal, few-flowered racemes; pod linear, curved, hairy; 6 in. long, ⅕ in. broad.

Waste places; common about Kandy. Fls. yellow.
Native of Tropical America.

5b. C. LÆVIGATA Willd. Enum. Hort. Berol. p. 441 (1809); Prain, l. c. p. 476.

A shrub, up to 6 ft. high; stem glabrous, glaucous; leaf-rachis 4–6 in. long, with conical glands between each pair of leaflets; stip. linear, caducous; lfts. 6, shortly stalked, 1½–4 in. long, ovate-lanceolate, glabrous, pale beneath; flowers in axillary and terminal racemes; pod cylindrical, straight, about 3 in. long.

Waste places in the montane zone; common. Fls. Feb., Sept.; yellow.
Native of Tropical America; introduced in Tropical Asia, Africa and Australia.

5c. C. BICAPSULARIS Linn. Sp. Pl. p. 376 (1753); Bak. in Fl. Brit. Ind. II, p. 263 (1879).

A shrub, up to 5 ft. high; stem glabrous, green; leaf-rachis 1½–2 in. long, with a clavate gland between the lowest pair of leaflets; stip. subulate, caducous; lfts. 6–8, shortly stalked, 1–1¼ in. long, obovate, glabrous, pale beneath; flowers in axillary racemes; pod cylindrical, straight, about 6 in. long.

Waste places; rather common about Kandy and Haragama. Fls. April; yellow.
Native of Tropical America.

6a. C. ALATA Linn. Sp. Pl. p. 378 (1753); Bak. in Fl. Brit. Ind. II, p. 264 (1879).

A scrub, up to 6 ft. high; stem minutely pubescent; leaf-rachis about 2 ft. long, without glands; stip. deltoid, persistent; lflts. about 26, shortly stalked, 5–6 in. long, obovate-oblong, minutely puberulous on the veins beneath; flowers in terminal racemes; pod about 6 in. long, with a broad wing down the middle of each valve.

Low moist country; common in waste places. Fls. Oct.; yellow.
Native of Tropical America.

*Page* 108.—

8. **C. siamea** Lam. **Manga Konnei,** *T.* (Gamble).

**Part II.**

*Page* 109.—For *C. glauca* Lam. read:

C. SURATTENSIS Burm. f. Fl. Ind. p. 163 (1768). *C. glauca* Lamk. Encycl. I, p. 467 (1783).

For *C. mimosoides* Linn. read:

Leaflets about 50, linear, minute, 0·15 in. long; pedicels over ½ in., bracteolate above the middle; pod 20–25-seeded; petiolar gland sessile; petals without red spots . 12. C. MIMOSOIDES.

Leaflets about 20, oblong, 0·4 in. long, 0·15 in. broad; pedicels 0·3 in., bracteolate below the middle; pod 8–16-seeded; petiolar gland subsessile; upper 2 petals with red spots . . . . . . . . 13. *C. Leschenaultiana.*

12. **C. mimosoides** Linn.

Up to 4000 ft. rather common. Pussellava; Uda Pussellava; Bandaravella; Peradeniya; Polonnaruva; Hakgala; Diyanilla; Maturata; Hantane.

Throughout the Tropics.

13. C. LESCHENAULTIANA DC. in Mem. Soc. Phys. Gen. II, p. 134 (1824). *C. Wallichiana* DC. l. c.; Petch in Ann. Perad. IX, p. 229 (1924). *C. mimosoides* var. *Wallichiana* Bak. in Fl. Brit. Ind. II, p. 266 (1879).

Annual, usually woody at the base; stems stout, deep purple-red, 2½–3 ft. high, pubescent, sparingly branched above with suberect branches; leaf-rachis 1–2½ in., pilose, with a subsessile gland below the lowest pair of leaflets; gland shaped like an inverted cone; stipules ovate-linear, usually strongly 3-nerved, up to ½ in. long, with the margins hairy; leaf ovate-oblong in outline, dark blue-green; leaflets about 18 pairs, 0·4 in. long, 0·15 in. broad; apex mucronate. bracteolate below the middle; fls. on slender pedicels 3 in. long, 1–3 in the leaf axils; sepals linear-lanceolate, acute, yellow; petals orange-red, with red spots at the bases of the two upper ones; fertile stamens usually 10, rarely 8–9 with 1 or 2 staminodes, yellow and purple; pod 1–1¾ in. long, 8–16 seeded, apex with a downward directed mucro.

Peradeniya; Bogavantalava; Haragama; Agrapatana.

Throughout the Tropics.

## 52. CYNOMETRA *Linn.*

Leaflets 1 pair, 4¼–6 in. long, laceolate, acuminate 1. C. RAMIFLORA.

Leaflets usually 3 pairs, 1–5 in. long, ovate-lanceolate, acuminate or not . . . . . . 2. C. BIJUGA

1. **C. ramiflora** Linn. Sp. Pl. p. 382 (1753). *C. ramiflora* subsp. *genuina* Prain, in Journ. As. Soc. Beng. LXVI, p. 478 (1897). *C. longifolia* Trim. ms. **Gal-mendora,** *S.* (Trimen).

Low country jungles; between Nilgala and Pettipular, Uva, between Muppane and Indigasvalla; Kumbukan; Alutnuvara. Fls. Jan.

Throughout Tropical Asia.

I have seen only young pods and this may be *C. travancorica* Bedd. which has smooth pods.

The pods mentioned under *Crudia zeylanica* by Trimen may possibly belong here as the locality is Uva and the name might have been a mistake for "Opulu."

2. **C. bijuga** Span. in Linnæa XV, p. 201 (1841) nomen; Miq. Fl. Ind. Bat. I, p. 78 (1856). *C. ramiflora* var. *heterophylla* Thw. Enum. p. 97 (1859). *C. ramiflora* subsp. *bijuga* Prain, in Journ. As. Soc. Ben. LXVI, p. 478 (1897). *C. polyandra* Miq. Anal. Bot. Ind. I, p. 11 (1850) non Roxb. *C. ramiflora* Bedd. Fl. Sylv. t. 315 (189?) non Linn. *C. mimosoides* Gamble Fl. Madr. p. 13 (1919). **Opulu,** *S.* (F. Lewis); **Attukaddupulli,** *T.* (F. Lewis); **Kadumpuli,** *T.* (Nevill).

A small tree, with pale brownish bark and round head; twigs slender; young parts glabrous; leaves composed of 2 pairs of sessile leaflets, upper pair 3–5 in. long, lower 1–2 in., up to $1\frac{3}{4}$ in. broad, acuminate, subacuate, unequal sided, glabrous; fls. not seen; pod $\frac{2}{3}$–1 in., not deeper than long, shortly beaked, very deeply rugose.

Low moist country; common? Nambapana. "Common in wet forests near water" (F. Lewis).

Also in the Andamans and Malay Archipelago.

Var. ?**mimosoides** Merr. in Phil. Journ. Sc. V, p. 36 (1910). *C. mimosoides* Wall. Cat. no. 5817 (1832) nomen. *C. ramiflora* var. *mimosoides* Bak. in Fl. Brit. Ind. II, p. 267 (1878).

Leaflets much smaller, up to 2 in. long, less unequal, not acuminate, obtuse, emarginate; fls. not seed; pod $\frac{2}{3}$ in. usually deeper than long, very deeply rugose.

Low dry country; common? Trincomalee (Rottler, Thwaites); Sober Island, Trincomalee Harbour (Nevill).

Also in India, Burma and the Malay Archipelago.

A specimen from Puttalam collected by Ferguson has much larger pods, 1 in. long.

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**Saraca indica** Linn. **Asogam,** *T.* (F. Lewis).

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III.—Mimoseæ.

Add to key:

Anthers at first gland-crested . . . . Genera 58–61.
Anthers not gland-crested:
  Pod not jointed; flowers greenish-white .
    Shrub; stigma clavate . . . . 61a. *Desmanthus.*
    Small tree; stigma capitate . . . *Leucæna.*
  Pod jointed; flowers purplish . . . 61b. *Mimosa.*

**Part II.**

Add to key:

Pod straight:
Pod thin, not transversely septate . . . 63. ALBIZZIA.
Pod thick, transversely septate . . . *Enterolobium.*

58. **NEPTUNIA** *Lour.*

| | |
|---|---|
| Pinnæ 2–3 pairs; rachis without a gland; leaflets 9–14 pairs; seeds 4–6 . . . . | N. OLERACEA. |
| Pinnæ 3–5 pairs; rachis with a sessile gland below the lowest pair of leaflets; leaflets 12–40 pairs; seeds 5–20 . . . . . . | *N. plena.* |

*Page* 119.—For *Entada scandens* Bth. read:

| | |
|---|---|
| Leaflets 2–4-jugate; seeds $1\frac{3}{4}$ in. diam. . . | E. PURSÆTHA. |
| Leaflets 4–5-jugate; seeds $1\frac{1}{4}$ in. diam. . . | *E. monostachya.* |

**E. Pursætha** DC. Mem. Leg. p. 421 (1825). *Mimosa scandens* Linn. Sp. Pl., ed. 2, p. 1501 (1762) pp. *Entada scandens* Bth. in Hk. Journ. Bot. IV, p. 332 (1842) pp. *Gigalobium scandens* Hitch. in Miss. Bot. Gdns. Rep. p. 52 (1893) pp. *Entada phaseoloides* Merr. in Phil. Journ. Sc. Bot. IX, p. 86 (1914) pp. non *Lens phaseoloides* Linn. *Entada gigas* Fawcett & Rendle Fl. Jam. II, p. 124 (1920) pp. non *M. gigas* Linn. *Pusætha* Flor. zeyl, no. 644. Burm. zeyl. 139. *Perimkaka-valli* Rheede Hort. Mal. VIII, t. 32–4, **Maha-pus-vel,** *S.*

Also in India.

E. MONOSTACHYA DC. l. c. p. 422 t. 61 (1825). *Mimosa Entada* Linn. Sp. Pl. p. 518 (1753). **Hin-pus-vel,** *S?*

Also in India (Rheede Hort. Mal. IX, t. 77).

This species, of which I have seen no specimen but only seeds, has 5 or more pairs of leaflets and simple spikes. It is considered a young form by Wight and Arnott, but distinct by Ridley (Journ. Bot. LVIII, p. 195), who regards the typical *E. gigas* (*E. scandens*) as restricted to the West Indies and *E. phaseoloides* (*E. Rumphii*) to the Philippines and Amboina.

*Lens phaseoloides* is considered by some authors to be the type of the genus *Lens*.

Tennant, Ceylon I, p. 105, makes the following statements: "One monstrous creeping plant called by the Kandyans the Maha-pus-wael or Great Hollow climber, has pods, some of which I have seen fully five feet long and six inches broad. . . . The same plant, when found in lower situations, where it wants the soil and moisture of the mountains, is so altered in appearance that the natives call it Heen-pus-wael."

The pods are normally flat, but one of the drawings at Peradeniya shows a twisted pod.

*Page* 120.—For *Adenanthera bicolor* Moon read:

**A. aglaosperma** Alst. in Ann. Perad. XI, p. 204 (1929). *A. bicolor* Thw. Enum. p. 98 (1859); Trim. Fl. Ceyl. II, p. 120 (1894) non Moon.

61a. DESMANTHUS *Willd.*

A shrub; l. bipinnate, with bristle-like persistent stipules; fls. in heads, hermaphrodite; calyx campanulate, 5-toothed;

pet. almost free, 5; stam. 10, free, much longer than the corolla; pod flat, narrow, dehiscent; seeds numerous.—Sp. 8–9; Tropical American.

D. VIRGATUS Willd. Sp. Pl. IV, p. 1047 (1806). *Mimosa virgata* Linn. Sp. Pl. p. 519 (1753). *M. pernambucana* Linn. l. c. *Desmanthus pernambucanus* Thell. in Mem. Soc. Nat. Chert., Sér. 1, XVIII, p. 296 (1911).

A shrub, about 4 ft. high; pinnæ 3–5 pairs; lfts. 7–18 pairs, oblong-linear, sessile glabrous, very unequal-sided, 0·4 in. long; flower heads solitary, axillary; pos. 3½ in. long, with about 30 seeds.

Rather common in waste places. Fl. July–Sept.; creamy-white. Native of Tropical America.

### 61b. MIMOSA *Linn.*

Herbs or woody plants; l. bipinnate, stipulate; fls. in heads, hermaphrodite or polygamous; calyx minute, shortly lobed; pet. usually 4, united; stam. 4–10, exserted, free; pod flat, made up of 1-seeded joints.—Sp. about 300; mostly natives of Tropical America.

M. PUDICA Linn. Sp. Pl. p. 518 (1753) pp.

A procumbent shrub; stems with scattered prickles; leaf-rachis 1–1½ in. long; pinnæ 2 pair; lflts. about 18 pairs, sparsely strigose, oblong, sensitive to the touch; heads solitary, axillary; stamens 4, 3 times as long as the petals; pods ½ in. long, 3–4 jointed, with marginal bristles.

Low country; common. Fl. July, etc.; purplish-pink. A native of Tropical America.

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### 62. **ACACIA** *Willd.*

Add to key:

Pod cylindrical:
  Pod curved nearly into a ring . . . . 2. A. PLANIFRONS.
  Pod straight or slightly curved . . . 2a. *A. Farnesiana.*

Add to key:

Heads in panicles:
  Pod not constricted . . . . . . . 5. A. LEUCOPHLŒA.
  Pod constricted between the seeds:
    Fls. chrome-yellow . . . . . . *A. dealbata.*
    Fls. pale sulphur-yellow . . . . . *A. decurrens.*

1. **A. arabica** Willd. **Mul-vel, Oussi-vel,** *S.* (Capt. Walker). Single tree midway between Kekirava and Dambulla; one tree below Yodiela Bund at Sangatteva (Nevill).

2a. A. FARNESIANA Willd. Sp. Pl. IV, p. 1083 (1806). *Mimosa Farnesiana* Linn. Sp. Pl. p. 521 (1753).

A shrub; stipular spines 0·2–0·4 in. long, straight; leaf-rachis $1\frac{1}{2}$ in. long; pinnæ 5–8 pairs; leaflets 8–17 pairs, 0·15 in. long; fl. in solitary, axillary, globular heads on peduncles $\frac{3}{4}$ in. long; pod 3–4 in. long, cylindrical, glabrous.

Not uncommon in waste places in the low country. Fl. June, Nov.; yellow, sweet-scented.

Native country doubtful.

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6. **A. Sundra** DC. **Karangali,** *T.* (Gamble).

Near Pomparippu, N.W.P., fairly abundant; Iranaimadu, N.P.; Hambantota on Haldumulla road (Broun); below Tangalle; Molamure, Meda Korale; Tissamaharama (F. Lewis).

*Page* 126.—

7. **A. ferruginea** DC.

Near Badulla, N.W.P. (Broun).

*Page* 127.—For *A. cæsia* Willd. and *A. pennata* Willd. read:

Leaflets very unequal-sided, up to 0·276 × 0·06 in., with the median nerve near the top, more or less overlapping, almost square at the base:
- Pinnæ 4–6 pairs; leaflets 0·25 × 0·04 in. or more:
  - Flowers white; leaflets about 17 pairs; gland flat-topped; pod thick, fleshy . . . 8. A. CONCINNA.
  - Flowers yellow; leaflets about 40 pairs; gland beaked; pod thin, coriaceous . . . 9. A. PENNATA.
- Pinnæ 11–17 pairs; leaflets 0·1 × 0·03 in., about 50 pairs; gland flat-topped; flowers pale cream 10. A. TOMENTELLA.

Leaflets less unequal-sided, 0·4 × 0·125 in. or larger, with the median nerve more or less central, not overlapping, subcordate at the base, 10–17 pairs:
- Gland broader than high, somewhat beaked; pinnæ 6 pairs; leaflets 0·4 × 0·125 in., glabrous; thorns up to 0·2 in. long; flowers very pale yellow . . . . . . . 11. A. CÆSIA.
- Gland columnar; pinnæ sparse; leaflets 0·4 × 0·1 in., slightly pubescent beneath; thorns up to 0·075 in. long . . . . . . *A. columnaris.*

8. **A. concinna** DC. Prodr. II, p. 464 (1825) non Thw. *Mimosa concinna* Willd. Sp. Pl. p. 1039 (1806). *A. cæsia* Trim. Fl. Ceyl. II, p. 129 (1894) pp. non Willd.

A large woody climber; stems much branched, greyish, with many small, scarcely decurved prickles; young parts rather densely pubescent; leaf-rachis 3–4 in. long, with a flat-topped, sessile gland about 0·4 in. from the base, pubescent on the upper side, set with a few decurved hooked prickles; pinnæ about 5 pairs, about $1\frac{1}{4}$ in. long; leaflets about 17 pairs, unequal-sided, crowded, and slightly overlapping, 0·25 × 0·04 almost square at the base, pubescent

beneath; flower-heads globular, ½ in. diam., usually solitary at the nodes, on peduncles 0·7–0·8 in. long; fls. sessile; calyx top-shaped; corolla slightly exserted; ovary pubescent; "pod thick, fleshy, much wrinkled when dry, depressed between seeds, and often indented on the sutures, 3–4 in. long, 0·75 in. broad."

Ceylon (Walker). Calyx red, and corolla white (Gamble).
Throughout Tropical Asia.
The description of the pods is from Gamble, who states that they are used as a substitute for soap.

9. **A. pennata** Willd. Sp. Pl. IV, p. 1090 (1805); Thw. Enum. p. 991 (1859); Trim. Fl. Ceyl. II, p. 127 (1894) pp. *Mimosa pennata* Linn. Sp. Pl. p. 522 (1753) C.P. 3300. **Goda-hinguru,** *S.* (?).

As *A. concinna* but stem less branched, almost destitute of prickles; young parts whitish pubescent; leaf-rachis 3–3½ in.; gland flat-topped or somewhat beaked, 0·3–0·6 in. from the base of the petiole; pinnæ 4–6 pairs; leaflets about 40 pairs, very unequal-sided, crowded and overlapping, 0·276 × 0·06 in., glabrous or thinly pubescent beneath, almost square at the base; flower heads 0·3 in. diam., on peduncles about 0·9 in. long, 1–4 at a node, arranged in pubescent, axillary or terminal panicles; fls. subsessile; pod 6–8 in. long, 0·85–1·25 in. broad, the suture thick. (Descr. of pod from Gamble.)

Very rare?; Haragama. Fls. June; yellow, purple in bud.
Tropics of the Old World.

10. **A. tomentella** Zipp. ex Spanoghe in Linnæa XV, p. 199 (1841); Miq. Fl. Ind. Bat. I, p. 13 (1855). *A. canescens* Grah. in Wall. Cat. no. 5256 (1840); Gamble Fl. Madr. p. 429 (1919) non Mart. & Gal. *A. pennata* var. *canescens* Bak. in Fl. Brit. Ind. II, p. 298 (1879). *A. pennata* Trim. Fl. Ceyl. II, p. 127 (1894) pp. non Willd.

As *A. concinna* but stems less branched, with few or many small prickles; young parts whitish pubescent; leaf-rachis 2–6 in. long, with a rather large hemispherical or flat-topped gland, 0·15–0·2 in. from the base, puberulous; pinnæ 11–17 pairs, 1–1½ in. long; leaflets about 50 pairs, 0·1 × 0·03 in., very unequal-sided and overlapping, almost square at the base, more or less pubescent beneath; flower heads 0·2 in. diam.; peduncles about 0·8 in. long; fls. subsessile; pods about 4½ in. long, 0·9 in. broad; with the sutures slightly raised.

Dry country; common. Fls. Feb., Sept., pale cream.
Also in India and Burma.

11. **A. cæsia** Willd. Sp. Pl. IV, p. 1900 (1805); Trim. Fl. Ceyl. II, p. 127 (1894) pp. *A. Intsia* W. & A. Prodr. p. 278 (1834); Thw. Enum. p. 99 (1859) non *M. Intsia* Linn. *Mimosa cæsia* Linn. Sp. Pl. p. 1507 (1753) pp. C.P. 3607.

As *A. concinna* but prickles larger; young parts sparingly pubescent; leaf-rachis 4–6 in. long, sparsely pubescent; gland ¼ in. from the base of the rachis, beaked at one end; pinnæ about 6 pairs, nearly 2 in. long; leaflets 10–12 pairs, much less unequal-sided, not overlapping, 0·4 × 0·125 in., glabrous, subcordate at the base; flower heads 1–3 at a node, arranged in large pubescent terminal panicles 0·3–0·8 in. long; "pod 4–5 in. long, 1 in. broad, obtuse, the sutures slender."

Hot, drier parts of the Island (Thwaites); Atakalan Korale; Trincomalee. Fl. Sept.

Also in India.

The description of the pod is from Gamble.

12. A. COLUMNARIS Craib, in Kew Bull. 1915, p. 410. *A. concinna* Thw. Enum. p. 99 (1859) non DC. *A. cæsia* Trim. Fl. Ceyl. II, p. 127 (1894) pp. non Willd. C.P. 1579. **Hinguru-vel,** *S.*

As *A. concinna* but stems thicker, less branched, greyish-green; leaf-rachis 3–4 in. long, with a tall columnar gland about 0·3 in. from the base, ferrugineous tomentellous; pinnæ about 8 pairs, 2–2¼ in. long; leaflets a very dark, metallic green above, 10–17 pairs, somewhat unequal-sided, not overlapping, 0·4 × 0·1 in., slightly ferrugineous pubescent beneath, subcordate at the base; flower heads globular, 0·3 in. diam., in bud densely ferrugineous pubescent, 2–4 at a node, arranged in a large, densely pubescent, terminal panicle; calyx teeth deltoid, acute, half as long as the tube; corolla exserted; ovary pubescent; style glabrous; pod 4½–6 in. long, 1–1½ in. broad, thin, glabrous; seeds distant, black.

Low country up to 2000 ft. common. Fls. white or very pale cream.

Also in S. India.

This seems to be our common plant; I am doubtful if it is really distinct from *A. cæsia.* The description of the pod is taken from Gamble.

The sap is supposed to have medicinal virtue.

## 63. **ALBIZZIA** *Durazz.*

Add to key:

Lflts. with midrib close to upper edge:
Fls. pink, in heads arranged in panicles . . 3. A. CHINENSIS.
Fls. white, in spicte panicles . . . . *A. falcata.*

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1. **A. Lebbek** Benth.
Kurunegala, where it is called **Suriya-mara,** *S.* which Trimen gives for *A. odoratissima,* which is called **Huri-mara,** *S.* at Kurunegala.

*Page* 129.—For *A. stipulata* Boiv. read:

3. **A. chinensis** Merr. Int. Rumph. p. 49 (1917). *Mimosa chinensis* Osbeck, Dagbok Ostind. Resa. p. 233 (1757). *A. marginata* Ham. in Wall. Cat. no. 5243 (1830); Merrill in Phil. Journ. Sc. V, p. 23. *Mimosa marginata* Lamk. Encycl. I, p. 12 (1783). *M. stipulata* Roxb. Fl. Ind. II, p. 549 (1832). *Albizzia stipulata* Boiv. in Encycl. XIX*e* Siècle II, p. 53 (1834). **Pili-vagei** *T.* (Gamble).

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4. **A. amara** Boiv. **Wunja,** *T.* (Gamble). **Iha,** *S.*

*Page* 131.—For *A. moluccana* Miq. read:

A. FALCATA Backer, in Merrill, Sp. Blanc. p. 249 (1918). *Adenanthera falcata* Linn. in Stickm. Herb. Amb. p. 14 (1754). *Albizzia ?moluccana* Miq. Fl. Ind. Bat. I, p. 26 (1855).

## 64. PITHECOLOBIUM *Mart.*

Add to key:

Pinnæ 1 pair:
Lflts. 1–5 pair . . . . . . 1. P. GEMINATUM.
Lflts. 1 pair . . . . . . . *P. dulce.*

*Page* 132.—For *P. Saman* Bth. read:

ENTEROLOBIUM SAMAN Prain, ex King, in Journ. As. Soc. Beng. LXV, p. 252 (1897). *Pithecolobium Saman* Benth. in Hk. Lond. Bot. III, p. 216 (1844).

3. **Pithecolobium bigeminum** Bth. **Kat-pakka,** *T.* (Gamble).

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4. **P. subcoriaceum** Thw. **Malei-vagei,** *T.* (Gamble).

## 1. PYGEUM *Gaertn.*

Infl. slightly hairy; leaves quite glabrous:
Racemes glabrous; leaves $3\frac{1}{2}$–$4\frac{1}{2}$ in. . . *P. tenuinerve.*
Racemes more or less hairy:
Leaves under $2\frac{1}{2}$ in. long; fruiting pedicels under $\frac{1}{4}$ in. . . . . . P. PARVIFOLIUM.

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Leaves $2\frac{1}{2}$–6 in. long; fruiting pedicels over $\frac{1}{4}$ in. . . . . . . P. WIGHTIANUM.
Infl. densely pilose:
Ovary laxy villous; racemes up to $1\frac{1}{4}$ in. . *P. plagiocarpum.*
Ovary densely hairy; racemes $1\frac{1}{2}$–$2\frac{1}{2}$ in. . 3. P. ZEYLANICUM.

1. P. TENUINERVE Koehne, in Engl. Bot. Jahrb. LI, p. 179 (1914). Described from leaves only and probably not a good species. Endemic.

2. **P. parvifolium** Koehne l. c. p. 179 (1914). *P. Wightianum* var. *parvifolium* Thw. Enum. p. 103 (1864).
Montane zone above 4000 ft.; common. Fl. May, Oct.
Endemic.
More material is required before this can be accorded specific rank.

3. **P. Wightianum** Blume.
Endemic.

4. P. PLAGIOCARPUM Koehne l. c. p. 180.
Endemic.
This is also a doubtful species.

5. **P. zeylanicum** Gaertn.
Vattegoda; Ginigathena.

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## 2. **RUBUS** *Linn.*

Leaves simple:
- Leaves small with a more or less homogeneous, thick pubescence; stems usually white tomentose; infl. rather dense; spines small; fruit purple; pedicels up to 0·3 in. long; species of the upper montane zone:
  - Petals v. small, white; pubescence orange; bracts deeply laciniate; lvs. acutely 5 lobed . . . . . 1. R. MICROPETALUS.
  - Petals large, pink, pubescence ochre; bracts less deeply laciniate; lvs. oblong, 7-lobed . . . . . . . 2. R. FAIRHOLMIANUS.
- Leaves large, usually with the pubescence darker on the veins; stems brown tomentose; petals large:
  - Bracts deeply laciniate; fruits black; spines small; veins slightly darker pubescent; pedicels over 0·3 in. long; species of the montane zone:
    - Pubescence grey ochre with darker veins; infl. rather dense; fruit small *R. micropetalus.*
    - Pubescence ferrugineous; veins scarcely darker; infl. lax; fruit large . . 3. R. RUGOSUS.
  - Bracts subentire; spines large; infl. very lax; veins much darker:
    - Leaves shallowly cordate; fruits large, black; fls. pink; upper montane zone 4. R. GARDNERIANUS.
    - Leaves deeply cordate; fruit small purplish red; fls. white; above 1000 ft. . 5. R. INDICUS.

Leaves pinnate:
- Leaves 3-foliolate; fruit yellow; stems green, with hairs and thorns . . 6. R. ELLIPTICUS.
- Leaves 5–7 foliolate; stems glaucous; fruit bluish black:
  - Leaflets broadly ovate; flowers large . 7. R. LEUCOCARPUS.
  - Leaflets elliptic; flowers small . . 8. R. NIVEUS.

For *R. glomeratus* Blume read:

1. **R. micropetalus** Gardn. in Calc. Journ. Nat. Hist. VIII, p. 6 (1847) pp.; Gamble Fl. Madr. p. 441 (1919). *R. rugosus* var. *β* Thw. Enum. p. 101 (1859). *R. moluccanus* Hk. f. Fl. Brit. Ind. II, p. 330 (1879) pp. *R. glomeratus* Trim. Fl. Ceyl. II, p. 136 (1894) pp.

Upper montane zone; rather common. Ramboda; Hakgala; Pussellava. Fl. Jan., June; white; fruit purplish-red.

Also in Tinevelly.

For *R. moluccanus* var. *Fairholmianus* read:

2. **R. Fairholmianus** Gardn. in Calc. Journ. Nat. Hist. VIII, p. 6 (1847); Gamble l. c. *R. rugosa* var. *γ* Thw. Enum. p. 101 (1859). *R. moluccanus* Hk. f. Fl. Brit. Ind. II, p. 330 (1879) pp. *R. moluccanus* var. *Fairholmianus* Trim. Fl. Ceyl. II, p. 137 (1894).

Stems densely white or ochraceous tomentose, with numerous, almost straight, weak prickles; leaves simple, $2\frac{1}{2}$–$4\frac{1}{2}$ in. long, $2\frac{1}{4}$–4 in. broad, shallowly 7 lobed with obtuse lobes, densely and evenly, creamy pubescent beneath, with a few prickles on the main veins; petiole about $1\frac{1}{4}$ in. long; stipules and bracts very deeply laciniate, caducous; flowers in very dense, terminal panicles; bracts reddish; pedicels 0·15 in. long; calyx lobes slightly toothed, without a hyaline border; petals $\frac{3}{4}$ as long as the calyx segments; fruit of very numerous carpels, dark purple.

Upper montane zone. Bushy places on Bopatalava Plains; between Adam's Peak and Nuvara Eliya; Badulla road, Nuvara Eliya. Fls. March, April; pink.

Also in S. India.

3. **R. rugosus** Sm. in Rees, Cycl. XXX, no. 34 (1814), var. *Thwaitesii* Focke, in Bibl. Bot. LXXII, p. 94 (1909); Gamble l. c. *R. moluccanus* var. *macrocarpus* Trim. Fl. Ceyl. II, p. 137 (1894) pp.

Stems rather thinly dark brown pubescent, with a few weak, almost straight prickles; leaves simple, $2\frac{1}{2}$–$4\frac{1}{2}$ in. long, 3–$5\frac{1}{2}$ in. broad, obtusely 5 lobed, deeply cordate at the base, hairy on the veins and rugose above, ferrugineous or brown pubescent beneath, with the veins rather darker and occasional prickles on the main veins; petiole $1\frac{3}{4}$–3 in. long; stipules bifid, rather deeply laciniate, almost glabrous, caducous; flowers in few-flowered, loose, terminal panicles; bracts toothed, densely ferrugineous pubescent, without a hyaline border; petals $\frac{2}{3}$ as long as the calyx segments; fruit black, of several large carpels.

Montane zone. Nuvara Eliya; Hakgala. Fls. Nov., May.

4. **R. Gardnerianus** O. Ktze. Meth. p. 214 (1879); Gamble l. c. *R. macrocarpus* Gardn. in Calc. Journ. Nat. Hist. VIII, p. 7 (1847) non Benth. *R. rugosus* var. *δ* Thw. Enum. p. 101. *R. moluccanus* Hk. f. in Fl. Brit. Ind. II, p. 330 (1879) pp. *R. moluccanus* var. *macracarpus* Trim. Fl. Ceyl. II, p. 137 (1894).

Stems thinly dark brown pubescent, armed with numerous large curved thorns; leaves simple, 5–6½ in. long, 3½–5 in. broad, obscurely 3 or 5 lobed, slightly cordate at the base, hairy on the veins, and slightly rugose above, grey-ochre pubescent beneath with darker veins and prickles on the main veins; petiole 2–3 in. long; stipules deeply cut, somewhat pubescent, caducous; flowers in very loose terminal panicles; bracts toothed; pedicels about ⅔ in. long; calyx-lobes densely ferrugineous pubescent, entire, without a hyaline border; petals ⅔ as long as the calyx segments; fruit black, of several large carpels.

Upper montane zone; common. Nuvara Eliya; Hakgala. Fls. Jan.–Oct.; pink.

Also in S. India.

5. **R. indicus** Thunb. Diss. Rub. p. 7 (1813); Fl. Ceil. p. 6 (1825). *Rubus Wightii* Gamble, Fl. Madr. p. 440 (1919). *R. rugosus* var. *a* Thw. Enum. p. 101 (1859). *R. moluccanus* Hk. f. Fl. Brit. Ind. II, p. 330 (1879) pp.; Trim. Fl. Ceyl. II, p. 136; ?Thunb. Fl. Ceil. p. 6 (1825). **Vel-bute**, *S.*

Stems thickly ferrugineous or brown pubescent, armed with numerous large curved thorns; leaves simple, 2½–3½ in. long, 2¾–4 in. broad, subacutely 5 lobed, deeply cordate at the base, hairy on the veins, and very rugose above, grey ochre pubescent beneath with darker veins and prickles on the main veins; petiole 1–1½ in. long; stipules caducous; flowers in a very loose, branched, terminal panicle and in clusters in the leaf axils; bracts subentire; pedicels about ½ in. long; calyx lobes densely ferrugineous pubescent, entire, with a hyaline border; petals ¾ as long as the calyx segments; fruit purplish-red.

Moist country above 1000 ft.; very common. Peradeniya; Galle; Bandaravela. Fl. all the year.

This must be Thunberg's plant as he could scarcely have obtained any of the up-country species.

Also in S. India.

6. **R. ellipticus** Sm.

Moon gives *Nara-buté* as the Sinhalese name.

8. **R. leucocarpus** Arn. Pug. p. 16 (1836). *R. lasiocarpus* var. *subglaber* Thw. Enum. p. 101 (1859); Hk. f. in Fl. Brit. Ind. II, p. 339; Trim. Fl. Ceyl. II, p. 138.

Stems erect or scrambling, glabrous but covered with a fine bloom, armed with large straight or curved thorns; leaves pinnate; rachis 3–5 in.; leaflets 3–7, subsessile, ovate, cordate at the base, acute, acuminate, glabrous or slightly hairy beneath, finely serrate; stipules rather small, linear; fls. in small, terminal and axillary corymbs; bracts filiform; petals ⅔ as long as the calyx lobes; fruit large, bluish, pubescent.

Upper montane zone; common. Nuvara Eliya; Hakgala. Fls. March–Apr., Oct.; pink.

Var. **tomentosa** var. nov.

Leaves densely white tomentose beneath.

With the type but commoner.

Also in S. India.

For *R. lasiocarpus* Sm. read:

**Rubus niveus** Thunb. Diss. Rub. p. 9 (1813). *R. lasiocarpus* Sm. in Rees Cycl. XXX (1815). *R. rosæfolius* Thunb. Fl. Ceil. p. 7 (1825) non Sm. *R. parvifolius* Moon, Cat. p. 40 (1824).

As *R. leucocarpus* but branches pubescent; leaflets 5–9, ovate or elliptic, cuneate or truncate at the base, subacute with the end leaflets usually acute and acuminate, glabrous above, greyish-white tomentose beneath, more distantly serrate; stipules linear; fls. in terminal panicles and small axillary corymbs; bracts filiform; calyx lobes much smaller and more distant; petal $\frac{3}{4}$ as long as the calyx lobes; fruit pink (?) with smaller drupes.

Above 2000 ft.; common. Peradeniya; Hantane; Gorinidihela. Fls. July. Moon gives *Rodu-kœtambila* as the *S.* name.

Widely distributed in Tropical Asia.

Thunberg's locality was Java.

R. MULTIFLORUS Thunb. Diss. Rub. p. 7 (1813); Fl. Ceil. p. 7 (1825).

Ceylon (Thunberg).

Also collected in Java. This species is unknown to me.

*Page* 139.—For *Potentilla Kleiniana* W. & A. read:

**P. sundaica** O. Ktze. Rev. Gen. p. 219 (1891). *Fragaria sundaica* Bl. Bijdr. p. 1106 (1826). *Potentilla Kleiniana* W. & A. Prodr. p. 300 (1834).

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## XLVII.—CRASSULACEÆ.

| | | |
|---|---|---|
| Calyx not inflated; sepals almost free . . . . | 1. | KALANCHOE. |
| Calyx inflated, shortly lobed . . . . . | 2. | BRYOPHYLLUM. |

*Page* 145.—

### 2. BRYOPHYLLUM *Salisb.*

Herbs; leaves simple or compound; inflorescence paniculate; calyx inflated, shortly 4-lobed, valvate; corolla campanulate, 4-lobed; stamens 8, inserted on the corolla-tube; carpels 4; seeds numerous.—Sp. 4; natives of Africa.

For *B. calycinum* Salisb. read:

B. PINNATUM Kurz, in Journ. As. Soc. Beng. p. 309 (1871). *Cotyle-*

*don pinnatus* Lamk. Encycl. II, p. 141 (1786). *Bryophyllum calycinum* Salisb. Parad. Lond. t. 3 (1805).

Stem erect, 1–3 ft. high; lower leaves pinnate or 3-foliolate, upper simple; lfts. oblong-elliptic, crenate; lamina 2–3½ in. long; calyx 1–1½ in. long; corolla-tube constricted below the middle; corolla-lobes acute.

Common in rocky places. Fl. Jan., Mar.; reddish.
Native of Tropical Africa.

*Page* 146.—

2. **Drosera indica** Linn.

For " Fl. . . . white " read:

Fl. . . . blue or mauve.

*Page* 147.—For *Serpicula* Linn. read:

1. **LAUREMBERGIA** *Berg.* (Aug. 1767).
(*Serpicula* Linn., Oct. 1767.)

Leaves cuneiform or obovate:
  Plants hairy:
    Pedicels of the male fls. 0·1 in. long; upper leaves alternate . . . . . . . 1. L. INDICA.
    Pedicels of the male fls. 0·3 in. long; upper leaves opposite . . . . . . . 2. L. WANGERINII.
  Plants glabrous . . . . . . . 3. L. GLABERRINA.
Leaves narrowly linear, subverticillate . . 4. L. ZEYLANICA.

1. **L. indica** Schindl. Halorrhagaceæ in Engl. Pflanzenreich p. 64 (1905). *Serpicula indica* Thw. Enum. p. 123 (1859) pp. *S. zeylanica* Trim. Hbk. Fl. Ceyl. p. 147 (1894) pp. non Arn.

Prostrate herb, with erect, minutely hairy branches. Lower leaves deciduous, subsessile; upper leaves sparse, persistent, sessile; older leaves oblong or obovate, 1–2 toothed on either side, teeth narrowly triangular; younger leaves linear-oblong, entire or 1–2 toothed, up to 0·5 in. long and 0·2 in. broad, suberect, with erect hairs on either side and especially on the margin, when dry minutely rugulose. Flowers monœcious, in 7-flowered dichasia in the leaf-axils, rarely solitary; male flowers terminal; pedicels suberect, glabrous, 0·1 in. long; calyx tube with long white hairs; lobes ovate, acuminate, obtuse at apex, glabrous; petals 4, broadly linear, apex acute, cucullate, glabrous except on the back of the vein, deciduous; anthers linear; styles 4, usually minutely capitate; female fls. sessile or subsessile; calyx tube urceolate, hairy, 8-nerved; lobes 4, minute, ovate, glabrous; acuminate, apex obtuse; ovary with 4 ovules; styles 4, capitate; stamens and petals wanting. Fruit a 1-seeded nut, 8-nerved, not costate.

Without exact locality, Thwaites C.P. 451 pp.
Endemic.

2. **L. Wangerinii** Schindl. l. c. p. 65. *Serpicula brevipes* Trim. Syst. Cat. p. 31 (1885) non Wight & Arn. *S. indica* Thw. Enum. p. 123 (1859) pp.

Prostrate herb, with the leafy branches, densely hairy. Leaves alternate or opposite, shortly petiolate; up to 0·1 in. long, canaliculate above, hairy; lamina rounded to lanceolate, with the lower side smaller; lower leaves 3-toothed on either side; upper leaves sub-entire; teeth narrowly ovate acuminate, subglabrous. Flowers monœcious, in 3–5-flowered axillary dichasia; male flowers terminal; pedicels incurved, about 0·3 in. long, hairy; calyx-tube very short; lobes 4, erect, ovate, shortly acuminate, glabrous; petals 4, almost glabrous apex acute and hooded; stamens 8; styles 4, subcylindric; ovary very reduced; female flowers 2–4, sessile; calyx-tube ellipsoid; petals and stamens wanting; styles 4, subcylindric; stigma capitate, stellate papillose; ovary unilocular, with 4 ovules. Fruit an elliptic, densely hairy nut.

Moist open ground near streams in the montane zone; very common. Hakgala; Horton Plains; Nuvara Eliya; Naminakula; Pidurutalagala. Fl. all the year; pinkish.

Schindler describes another species *L. grandiflora* allied to this, but I have not seen it and doubt if it is distinct. *L. hirsuta* Schindl. l. c. p. 65 Wight 940 (no locality) may be from Ceylon but is more probably S. Indian. *L. Wangerinii* Schindl. seems doubtfully distinct from *L. indica* Schindl.

3. **L. glaberrima** Schindl. l. c. p. 67. *Serpicula indica* Thw. Enum. p. 123 (1859) pp.

Prostrate or erect, glabrous herb. Leaves, at least on the younger branches, opposite, the lower ones deciduous, petiolate; lamina obovate, 2–3-toothed on either side, teeth often serrate, up to 0·7 in. long, and 0·2 in. broad, glabrous, minutely rugulose. Flowers monœcious, in axillary dichasia; terminal flower male; pedicel up to 0·2–0·4 in. long, glabrous; calyx tube very short; lobes 4, suberect, ovate, acuminate, rounded at the apex, glabrous; stamens 8; ovary unilocular, 4 ovuled; styles 4, cylindric, minute, capitate; female flowers sessile or subsessile; calyx tube ovoid-urceolate, costate, rugulose, 8-nerved, glabrous; cal.-lobes 4, suberect, ovate, acuminate, obtuse at apex; ovary unilocular, with 4 ovules; styles 4, cylindric, minute, capitate, filiform-papillose; petals and stamens wanting. Fruit broadly cylindrical, scarcely constricted at the apex, 8-costate, 1-seeded.

Montane zone; rather common. Adam's Peak; Maturata; Hunasgiriya; Rangala.

Var. **minor** (Thw.) *L. zeylanica* var. *minor* Schindl. l. c. p. 68.

*S. indica* var. *minor* Thw. Enum. *S. zeylanica* var. *minor* Clarke in Fl. Brit. Ind. II, p. 431.

Wattakellie.

Endemic.

L. BREVIPES Schindl. l. c. p. 67.

Wight 1090, 940 pp. (no locality) may be from Ceylon.

4. **L. zeylanica** Schindl. l. c. p. 68. *Serpicula zeylanica* Arn. ex Clarke in Fl. Brit. Ind. II, p. 431 (1878). *S. indica* Thw. Enum. p. 126 (1859) pp.

Creeping herb; stem up to 1 ft. long; branches erect or suberect, up to 7 in. high. Lower leaves deciduous; upper leaves apparently whorled, sessile, linear-oblong, entire or asymmetrically 1–2-toothed with the teeth narrowly triangular; leaves acute, up to ½ in. long, suberect, glabrous, minutely rugulose on the under surface. Flowers monœcious, in 3-flowered, axillary dichasia; terminal flowers male, pedicellate; pedicels about 0·4 in. long, glabrous; calyx-tube rugose; cal.-lobes 4, ovate, acuminate, rounded at the apex, glabrous; petals 4, broadly linear, glabrous; apex acute, hooked; stamens 8; styles 4, subcylindric, usually minutely capitate; female flowers sessile or subsessile; calyx-tube rounded-urceolate, densely granular, 8-nerved; ovary unilocular, 4-ovuled; styles 4, with capitate, filiform-papillose stigmas; petals and stamens wanting. Fruit 1-seeded, 8-costate, urceolate.

Upper montane zone; very rare. Adam's Peak where it is abundant near the uppermost cone. Kunadiyaparavita (F. Lewis).

Endemic.

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## L.—RHIZOPHORACEÆ.

*Page* 150.—

Add to key:

Pet. 5:

Stamens 10–12; ovary 3-celled . . . . . 2. CERIOPS.

Stamens numerous; ovary 1-celled . . . . *Kandelia.*

*Page* 151.—For *Rhizophora Candelaria* DC. read:

**R. apiculata** Blume Enum. Pl. Jav. I, p. 91 (1827). *R. Candelaria* DC. Prodr. III, p. 32 (1828).

The Index Kewensis gives *R. Candelaria* as published in Vol. I, of De Candolle's Prodromus.

*Page* 153.—For *Ceriops Candolleana* Arn. read:

1. **C. Tagal** C. Rob. in Phil. Journ. Sc. Bot. III, p. 306 (1908). *Rhizophora Tagal* Perr. in Mem. Soc. Linn. Par. III, p. 138 (1824). *Ceriops Candolleana* Arn. in Ann. Mag. Nat. Hist. I, p. 364 (1838).

*Page* 153.—

1. **Bruguiera gymnorhiza** Lamk.

Common near the sea coast. Kalutara; Trincomalee; Galle.

The name *B. conjugata* Merr. has been adopted by Gamble but is no older than *B. gymnorhiza* Lamk.

1a. **Bruguiera sexangula** Poir. in Lamk. Encycl. Suppl. IV, p. 262 (1816). *Bruguiera eriopetala* W. & A. in Wt. Ic. i, p. 210 (1838); Hemsl. in Fl. Brit. Ind. II, p. 438. *B. gymnorhiza* Thw. Enum. p. 120 (1859); Trim. Fl. Ceyl. II, p. 153 pp. non Lamk. *Rhizophora sexangula* Lour. Fl. Cochinch. p. 297 (1790).

As last, but branches thinner; leaves with shorter petioles; calyx-lobes usually 10, exceeding the fruit; petals densely hairy on the margins.

Southern coast of the island; Negombo.

Throughout the Eastern Tropics.

This species seems scarcely distinguishable except by the hairy petals, but it is kept up in the Fl. Brit. Ind. and other floras.

*Page* 154.—For *B. caryophylloides* Bl. read:

2. **B. cylindrica** Bl. Enum. Pl. Jav. p. 91 (1830). *B. caryophylloides* Bl. l. c. p. 93. *Rhizophora cylindrica* Linn. Sp. Pl. p. 635 (1753).

*Page* 155.—For *Carallia integerrima* DC. read:

1. **C. brachiata** Merr. in Phil. Journ. Sc. XV, p. 249 (1919). *Diatoma brachiata* Lour. Fl. Cochinch. p. 296 (1790).

5. **CASSIPOUREA** *Aubl.*

For *Weihea zeylanica* Baill. read:

**Cassipourea zeylanica** Alst. in Kew Bull. 1925, p. 251. *Anstrutheria zeylanica* Gardn. in Calc. Journ. Nat. VI, p. 344 (1846). *Weihea zeylanica* Baill. in Adans. iii, p. 68 (1862).

*Page* 157.—For *Anisophyllea zeylanica* Bth. read:

**A. cinnamomoides** (Gardner & Champ.) *Tetracrypta cinnamomoides* Gardn. & Champ. in Kew Journ. Bot. i, p. 314 (Oct., 1849). *Anisophyllum zeylanicum* Benth. in Hk. Niger Flora p. 575 (1849) nomen. *Anisophyllea zeylanica* Bth. ex Hk. f. & Th. in Journ. Linn. Soc. ii, p. 86 (1858).

*Page* 158.—

1. **TERMINALIA** *Linn.*

Add to key:

Drupe not winged:
  Stone of drupe very obscurely angled:
    Leaves glabrous:
      Leaves cordate at base; fruit glabrous . *T. Catappa.*
      Leaves cuneate at base; fruit tomentose . 1. T. BELERICA.
    Leaves pubescent; fruit glabrous . . . 2. T. CHEBULA.
  Stone of drupe 5-rayed . . . . . . 3. T. PARVIFLORA.

Drupe with 5 broad wings:
  Leaves glabrous; bark pale; wings of fruit stiff, obliquely striate . . . . . . . 4. T. ARJUNA.
  Leaves tomentose beneath; bark dark, rough; wings of fruit papery, horizontally striate . *T. tomentosa.*

*Page* 160.—For *T. glabra* W. & A. read:

4. **T. Arjuna** W. & A. Prodr. p. 314 (1834). *Pentaptera Arjuna* Roxb. Fl. Ind. ii, p. 438 (1824). *P. glabra* Roxb. l. c. p. 440. *T. glabra* W. & A. l. c. non R. Br.

The name *T. Arjuna* W. & A. has been rightly used by all authors except Trimen who overlooked its publication by Wight and Arnott, and the fact that there was another *T. glabra*.

*Page* 162.—

**Anogeissus latifolia** Wall. **Vellai-naga,** *T.* (Gamble). Mulugama (F. Lewis).

**Lumnitzera racemosa** Willd. **Tipparathai,** *T.* (Gamble).

**Combretum ovalifolium** Roxb. **Verragay,** *T.* (Gamble). Maha-Illupallama.

*Page* 165.—For *Gyrocarpus Jacquini* Roxb. read:

**G. americanus** Jacq. Stirp. Am. t. 178 (1763). *G. Jacquinii* Roxb. Cor. Pl. I, p. 2 t. 1 (1795).

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## L.—MYRTACEÆ.

Fruit capsular; leaves of mature plants alternate . *Eucalyptus.*
Fruit a berry:
  Leaves opposite:
    L. 3-nerved from the base; ovary 3-celled . 1. RHODOMYRTUS.
    L. penni-nerved:
      Ovary many-celled . . . . . . 1a. *Psidium.*
      Ovary 2-celled:
        Infl. cymose . . . . . . 1b. SYZYGIUM.
        Infl. fasciculate or subracemose . . 2. EUGENIA.

### EUCALYPTUS *L'Hérit.*

Upper umbels in a short terminal panicle:
  Fruit $\frac{1}{2}$ in. in diameter or more:
    Pedicels longer than calyx tube . . . 1. *E. ficifolia.*
    Pedicels shorter than calyx tube . . . 2. *E. maculata.*
  Fruit under $\frac{1}{2}$ in. in diameter . . . . 3. *E. siderophloia.*
Umbels axillary:
  Umbels subsessile, or flowers solitary; calyx warted . . . . . . . . . . 4. *E. Globulus.*
  Umbels stalked; calyx not warted:
    Pedicels longer than or equalling the peduncle of the umbel:
      Operculum almost equal to the calyx tube, not acuminate . . . . . . 5. *E. longifolia.*

Operculum shorter than the calyx tube, acuminate . . . . . . . 6. *E. Leucoxylon.*
Pedicels less than twice as long as the peduncle :
Operculum more than twice as long as the calyx tube . . . . . . . 7. *E. umbellata.*
Operculum less than twice as long as the calyx tube :
Leaves $\frac{3}{4}$ in. broad . . . . . . 8. *E. Kirtoniana.*
Leaves more than $\frac{3}{4}$ in. broad :
Leaves $1\frac{2}{3}$ in. broad . . . . . 9. *E. robusta.*
Leaves $\frac{3}{4}$ in. broad . . . . . 10. *E. diversicolor.*

1. E. FICIFOLIA F. Muell. Fragm. II, p. 85 (1860); Benth. Fl. Austr. III, p. 256 (1866); F. Muell. Eucaluptographia no. 26 (1879-1884); Maiden, Rev. Euc. V, p. 71 tt. 176 f. 6, 7; 177 f. 1–3 (1920).

Black-butt. Cultivated on estates.

Native of W. Australia.

2. E MACULATA Hk. Ic. Pl. t. 619 (1844); F. Muell. Euc. no. 44 (1879-1884); Bth. l. c. p. 257; Maiden, l. c. v, p. 84 (1920).

Var. CITRIODORA F. Muell. ex Maiden l. c. p. 88 t. 178 f. 5–7.

*E. citriodora* Hk. in Mitch. Trop. Aust. p. 235 (1848); Bth. l. c. p. 257.

Lemon-scented gum of Ceylon, Spotted gum of Australia. Commonly cultivated on estates.

Native of Queensland.

3. E. SIDEROPHLOIA Benth. l. c. p. 220; F. Muell. Euc. no. 87 (1879–1884); Maiden l. c. I, p. 324 t. 47 f. 19–33 (1909). *E. fibrosa* F. Muell.

The Red Ironbark. Cultivated on estates.

Native of Queensland and N.S. Wales.

4. E. GLOBULUS Labill. Voy. I, p. 153 t. 13 (1799); Bth. l. c. p. 225; F. Muell. Euc. no. 30 (1879–1884); Maiden, l. c. II, p. 249 t. 79 f. 1–12 (1913).

Blue Gum. Commonly cultivated on estates.

Native of Victoria and Tasmania.

5. E. LONGIFOLIA Link, Enum. Hort. Berol. II, p. 29 (1822); F. Muell. Euc. no. 41; Maiden, l. c. II, p. 295 t. 86 f. 1–6 (1914).

Wooly Butt. Cultivated on estates.

Native of N.S. Wales.

6. E. LEUCOXYLON F. Muell. in Trans. Vict. Inst. I, p. 33 (1854); Bth. l. c. p. 209 pp.; F. Muell. Euc. no. 40 pp.; Maiden, l.c. II, p. 88 t. 56 f. 1–12 (1910).

White Gum of Australia, Ironbark of Trimen's Flora. Cultivated on estates.

Native of N.S. Wales, Victoria and S. Australia.

7. E. UMBELLATA (Gaertn.) *E. tereticornis* Sm. Bot. Nov. Holl. p. 41 (1793); Bth. l. c. p. 241; F. Muell. Euc. no. 92 (1879–1884); Maiden, IV, p. 1 t. 128 (1919). *Leptospermum umbellatum* Gaertn. Fruct. I, p. 174 t. 35 (1788).

Grey Gum. Cultivated on estates.

Native of Queensland, N.S. Wales and Victoria.

8. E. KIRTONIANA F. Muell. in Euc. under *E. resinifera* (1879); Maiden l. c. III, p. 200 t. 123 f. 49 (1917).
Cultivated on estates.
Native of Queensland and N.S. Wales.

9. E. ROBUSTA Sm. Bot. Nov. Holl. p. 40 t. 13 (1793); Bth. l. c. p. 228; F. Muell. Euc. no. 78 (1879–1884); Maiden, l. c. II, p. 45 tt. 97, 98 f. 1–9 (1917).
Red Gum of Ceylon, Swamp mahogany or Brown Gum of Australia. The commonest species planted on estates.
Natives of N.S. Wales.

10. E. DIVERSICOLOR F. Muell. Fragn. III, p. 131 (1863); l. c. p. 251; F. Muell. Euc. no. 20 (1879–1884); Maiden, l. c. II, p. 298 t. 86 f. 7–12 (1914).
Karri. Cultivated on estates.
Native of W. Australia.

*Page* 166.—For *Rhodomyrtus tomentosa* Wight read:

**R. parviflora** nom. nov.* *R. tomentosa* Wt. Spicil. Neilgh. I, p. 60 (1846) pp. non *Myrtus tomentosa* Ait.
Also in S. India.

1a. PSIDIUM *Linn.*

Shrubs; leaves opposite; flowers solitary or in few-flowered, axillary cymes; calyx not lobed in bud but separating later into 4–5 lobes; petals 4–5, free; ovary inferior, many-celled, with several ovules in each cell; fruit a berry; seeds numerous; embryo with short cotyledons and a long radicle.—Sp. about 120; natives of Tropical America.

P. GUAJAVA Linn. Sp. Pl. p. 470 (1753). *P. Guyava* Trim. Fl. Ceyl. II, p. 167 (1894). *P. Guava* Griseb. Fl. Brit. W. Indies p. 241 (1860). *P. pomiferum* Linn. Sp. Pl., ed. 2, p. 672 (1762). *Myrtus guajava* O. Ktze. Rev. Gen. III, II, p. 91 (1891).

A shrub; young branches tetragonous; leaves oblong-lanceolate 5 in. long, 2 in. broad, acute, pubescent beneath; flowers solitary, large; fruit globose, red-fleshed, $1\frac{1}{4}$ in. diam.

Forma PYRIFERUM (Linn.) *P. pyriferum* Linn. Sp. Pl., ed. 2, p. 672 (1762); Edw. Bot. Reg. t. 1079.

Fruit pear-shaped, flesh yellowish.

A native of S. America.

*Page* 167.—For *Eugenia* Linn. read:

Calyx-tube produced beyond the ovary; flowers in cymes . . . . . . . . . . 1a. SYZYGIUM.
Calyx-tube not produced beyond the ovary; flowers solitary, fasciculate, or subracemose . . . . 2. EUGENIA.

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* Species *R. tomentosæ* Wight affinis, sed floribus parvis, breviter pedicellatis differt.—Typus: *Thwaites* C.P. 1591.

## 1b. SYZYGIUM *Gaertn.*

Calyx-tube with a thickened staminal disk at the mouth; petals distinct, large; fruit usually over ¾ in. (*Jambosa*).
- Leaves obtuse:
  - Calyx-tube truncate; leaves tapering at the base:
    - Lateral veins of leaves numerous, close; leaves large, rounded at apex; fls. white . . . . . . . 1. S. FIRMUM.
    - Lateral veins of leaves few, distant; leaves small, acuminate . . . 2. S. TURBINATUM.
  - Calyx-tube funnel-shaped; leaves rounded or truncate at the base . . . 3. S. AQUEUM.
- Leaves acute; strongly acuminate:
  - Calyx long, cylindric; leaves elliptic-lanceolate; fls. pinkish . . . 4. S. CYLINDRICUM.
  - Calyx-tube short:
    - Leaves lanceolate; calyx turbinate:
      - Lvs. 6 in. long; fls. large, white . S. JAMBOS.
      - Lvs. 1½–3 in. long . . . . *S. turbinatum.*
    - Lvs. elliptic, 3½–5 in. long; calyx hemispherical; fls. smaller, cream-coloured 5. S. HEMISPHERICUM.

Calyx-tube usually without a thickened staminal disk; petals small and usually falling off as a cap; fruit under ¾ in.
- Calyx-tube long, funnel-shaped; midribs green (*Acmena*).
  - Leaves usually long acuminate, petiolate, more or less cuneate at the base; fls. white:
    - Fruit globose, white; leaves small, usually ovate-elliptic, obtuse, fragrant; calyx-tube under ¼ in. long; lobes green . . . . . . . . 6. S. ZEYLANICUM.
    - Fruit obovoid-turbinate; leaves larger, elliptic-lanceolate or oblong, acute; calyx long; lobes reddish . . . 7. S. LANCEOLATUM.
  - Leaves slightly acuminate, subsessile, subcordate at the base; fls. pink; fruit ovoid-urceolate . . . . 8. S. FERGUSONII.
- Calyx-tube shorter, cup-shaped or turbinate (*Eusyzygium*).
  - Leaves cuneate or somewhat rounded at the base; usually petiolate:
    - Leaves shortly acuminate or rounded at the apex:
      - Leaves over 2 in. long; fruit ⅜–¾ in. diam.:
        - Petioles ¼–½ in. long:
          - Leaves thin; cymes in the axils of fallen leaves; fls. small:

Lateral veins few; lvs. usually obovate-elliptic, 4–6 in.; fls. sessile, cream-coloured . . 9. S. OPERCULATUM.
Lateral veins very numerous; lvs. elliptic or oblong, 3–3½ in.; fls. pedicellate, white . . 10. S. CUMINI.
Leaves thick; petals calyptrate:
Fls. small, ¼ in. diam., white; cymes usually in the axils of present leaves; fruit purplish-black . . . . . 11. S. MAKUL.
Fls. large, ½ in. diam. cream-coloured; cymes usually terminal; fruit green . . . 12. S. ASSIMILE.
Petioles up to ¼ in. long:
Fls. large, ½ in diam., cream-coloured . . . . . *S. assimile.*
Fls. small, ¼ in. diam., white:
Leaves of medium texture, many-veined; calyx green:
Large tree; bark reddish-brown; leaves about 1¾ in. broad, acuminate; fruit green . . . . . 13. S. NEESIANUM.
Bush or small tree; bark smooth, grey; leaves usually about 2 in. broad, rounded at the apex; fruit blackish . 14. S. CARYOPHYLLATUM.
Leaves very thick, few-veined; calyx pinkish; moderate-sized tree; bark pale brown; fruit crimson . . . 15. S. REVOLUTUM.
Leaves under 2 in. long:
Fls. large, ½ in. diam., cream-coloured; fruits ½–⅜ in., green . *S. assimile.*
Fls. small ¼ in. diam.:
Fruits ½–¾ in., crimson; fls. small:
Calyx deep crimson; fruit ¾ in. fls. white; lateral veins very numerous . . . . 16. S. UMBROSUM.
Calyx greenish:
Leaves over 1¼ in.; fls. pinkish; fruit ½ in. . . . 17. S. REVOLUTUM.
Leaves under 1¾ in.; fls. white; fruit ¼ in. . . . . 18. S. OLIGANTHUM.
Fruit ¼ in., purple; calyx greenish; fls. minute, pinkish . . . 19. S. SPATHULATUM.
Leaves long acuminate, long petioled, 2–3½ in. long; lateral veins numerous:
Fls. small or medium-sized:
Venation conspicuously reticulate beneath; leaves drying brown; fls. medium-sized . . . 20. S. LEWISII.

Venation of numerous parallel lateral veins, cross-veins inconspicuous; fls. small; fruit subglobose:
Leaves 3–3½ in. long, drying greenish; fls. white; fruit ⅜–½ in. . . . . . 21. S. GARDNERI.
Leaves 2–3 in. long, drying blackish; fls. pinkish . . 22. S. RUBICUNDUM.
Fls. minute, greenish-white; venation conspicuously reticulate beneath; fruit obovoid, ¼ in., purple . . 23. S. MICRANTHUM.
Leaves subsessile or shortly petiolate, rounded or cordate at the base, often rotundate; fruit subglobose; fls. sessile or subsessile:
Leaves small, under 1 in. long; branchlets quadrangular:
Leaves petiolate, ½–¾ in., orbicular; fruit ½ in.; fls. pinkish-white . 24. S. ROTUNDIFOLIUM.
Leaves sessile, ⅝–1 in., broadly oval or rotundate; fruit ¼ in.; fls. white 25. S. SCHLEROPHYLLUM.
Leaves large, over 2 in.; branchlets cylindrical; fls. white:
Fruit small, ¼ in.; fls. small, sessile; leaves rotundate . . . . 26. S. CYCLOPHYLLUM.
Fruit large, ⅝ in.; fls. shortly pedicelled:
Leaves oblong-rotundate; fls. large 27. S. SPISSATUM.
Leaves ovate; fls. small, more numerous; fruit subglobose . 27. S. CORDIFOLIUM.

*Page* 170.—For *Eugenia grandis* Wight read:

1. **Syzygium firmum** Thw. Enum. p. 417 (1864). *Eugenia grandis* Wight Ill. II, p. 17 (1850) pp. excl. syn. *Syzygium montanum* Thw. Enum. p. 116 (1859) pp. excl. syn.

Fls. cream-coloured.

Endemic.

2. **S. turbinatum** sp. nov.* *Strongylocalyx hemisphericus* Thw. Enum. p. 116 (1859) pp. non Bl. *Eugenia hemispherica* and *E. aquea* Trim. pp.

Tree?; leaves small, 1½–3 in. long, ¾–1 in. broad, obovate, tapering at the base, slightly acuminate and obtuse at the apex; margin somewhat revolute; lateral veins few, indistinct, parallel, ascending; petiole ¼ in., reddish; cymes terminal, rather shorter than the leaves; flowers shortly stalked; calyx tube ¼ in., turbinate; fruit globose, ½ in. diameter.

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* Species *S. hemispherici* affinis, sed calycis tubo turbinato differt. Typus—Gongalla Hill, *Thwaites* C.P. 2450 pp.

*Page* 169.—For *Eugenia aquea* Burm. read:

3. **S. aqueum** (Burm. f.) *Eugenia aquea* Burm. f. Fl. Ind. p. 114 (1768). *Jambosa aquea* DC. Prodr. III, p. 288 (1828).

The cultivated tree mentioned by Trimen is *Syzygium courtallense* (Gamble under *Jambosa*) a South Indian species. In Kew Bull. 1918, p. 240 it is recorded for Ceylon, Fraser 111, which was probably from the Peradeniya Gardens, where it is still cultivated.

*Page* 171.—For *Eugenia cylindrica* Wight read:

4. **S. cylindricum** (Wight) *Jambosa cylindrica* Thw. Enum. p. 115 (1859). *Eugenia cylindrica* Wight, Icones t. 52 (1840).

Dotalu Kande; Laxapanagala.

*Page* 170.—For *Eugenia Jambos* Linn. read:

S. Jambos (Linn.) *Jambosa vulgaris* DC. Prodr. III, p. 286 (1828). *Jambosa Jambos* Millsp. in Field. Columb. Mus. Bot. II, p. 80. *Eugenia Jambos* Linn. Sp. Pl. p. 470 (1753).

The Rose Apple.

*Page* 170.—For *Eugenia hemispherica* Wight read:

5. **S. hemisphericum** (Walp.) *Jambosa hemispherica* Walp. Rep. II, 191 (1845). *Eugenia hemispherica* Wight Ill. II, p. 14 (1850).

*Page* 171.—For *Eugenia spicata* Lam. read:

6. **Syzygium zeylanicum** DC. Prodr. III, p. 260 (1828); Gamble Fl. Madr. p. 479. *Myrtus zeylanica* Linn. Sp. Pl. 472 (1753). *Eugenia spicata* Lamk. Encycl. Meth. III, p. 201 (1789). *E. zeylanica* Wight Ill. p. 15 (1831).

Var. **lineare** (Wall.) *Syzygium lineare* Wall. Cat. no. 3596 (1828); Gamble l. c. p. 479. *Eugenia linearis* Duthie, in Fl. Brit. Ind. II, p. 486 (1879).

Leaves linear lanceolate.

Dry districts; Galagama; Uma-oya.
Also in S. India.

*Page* 172.—For *Eugenia lanceolata* Lam. read:

7. **Syzygium lanceolatum** W. & A. Prodr. p. 230 (1834). *Eugenia lanceolata* Lamk. Encycl. IV, p. 200 (1789).

Delgoda.

For *Eugenia Fergusoni* Trim. read:

8. **Syzygium Fergusonii** Gamble in Kew Bull. 1920, p. 52. *Eugenia Fergusonii* Trim. Fl. Ceyl. II, p. 172 (1894).

Also in S. India.

*Page* 179.—For *Eugenia operculata* Roxb. read:

9. **Syzygium operculatum** Nied. in Engl. u. Prantl. Nat. Pfl. III, 7, p. 85 (1893); Gamble Fl. Madr. p. 481 (1919). *Eugenia operculata* Roxb. Fl. Ind. II, p. 486 (1824). *Eugenia nervosa* DC. Prodr. III, p. 260 (1828).

For *Eugenia Jambolana* Lam. read:

10. **Syzygium cumini** Skeels, in U.S. Dept. Agric. Bur. Pl. Ind. Bull. CCXLVIII, p. 25 (1912). *Myrtus cumini* Linn. Sp. Pl. p. 471 (1753). *Eugenia cumini* Druce, in Rep. Bot. Excl. Cl. B. I. 1913, p. 418 (1914); Merr. Interp. Rumph. p. 394 (1917). *E. Jambolana* Lamk. Encycl. III, p. 198 (1789).

*Page* 175.—For *Eugenia sylvestris* Wight read:

11. **Syzygium Makul** Gaertn. Fruct. I, p. 166 t. 33 (1788). *E. sylvestris* Moon ex Wight Ill. II, p. 15 (1850) pp.; Trim. Fl. Ceyl. II, p. 175 (1894).

It is very doubtful if this is Gaertner's plant, but it is the only common, low country species with deciduous calyx lobes.

*Page* 176.—For *Eugenia assimilis* Duthie read:

12. **Syzygium assimile** Thw. Enum. p. 116 (1859). *Eugenia assimilis* Duth. in Fl. Brit. Ind. II, p. 493 (1878).

*Page* 177.—For *Eugenia Neesiana* Wight read:

13. **Syzygium Neesianum** Arn. Pug. p. 17 (1836). *Eugenia Neesiania* Wight, Ill. II, p. 15 (1850).

*Page* 174.—For *Eugenia corymbosa* Lam. read:

14. **Syzygium caryophyllatum** (Linn.). *Myrtus caryophyllata* Linn. Sp. Pl. p. 472 (1753), non *Eugenia caryophyllata* Thunb. *Eugenia corymbosa* Lamk. Encycl. III, p. 199 (1789), non *Syzygium corymbosum* DC. *Syzygium caryophyllæum* Wight Ic. t. 540 (1843) non Gaertn. *Myrtus caryophyllus* Spr. Syst. II, p. 483 (1825).

*Page* 173.—For *Eugenia subavenis* Duthie read:

16. **Syzygium umbrosum** Thw. Enum. p. 118 (1859). *Eugenia umbrosa* Bedd. For. Man. p. 108 (1874?) non Berg. *E. subavenis* Duth. in Fl. Brit. Ind. II, p. 489 (1878) non *E. subavenia* Berg.

*Page* 175.—For *Eugenia revoluta* Wight read:

17. **Syzygium revolutum** Walp. Rep. II, p. 180 (1843). *Eugenia revoluta* Wight, Ill. ii, p. 17 (1850).

**Karon-damba,** *S.*
Var. ?**viridis** var. nov.

Leaves larger, not glaucous beneath; fls. much smaller.

Ambagamuva. Fls. Jan.
Endemic, and probably a distinct species.
There is a plant labelled Wili-Damba from Abbotsford, it has rather long leaves for this species, and was put under *E. assimilis* by Trimen.

*Page* 178.—For *Eugenia oligantha* Duth. read:

18. **Syzygium oliganthum** Thw. Enum. p. 118 (1859). *Eugenia oligantha* Duth. in Fl. Brit. Ind. II, p. 494 (1878).
Delete Hantane from the localities; the specimen was *E. mabæoides.*

**Part II.**

For *Eugenia olivifolia* Duth. read:

19. **Syzygium spathulatum** Thw. Enum. p. 118 (1859). *Eugenia spathulata* Bedd. For. Man. p. 108 (1874?) non Berg. *E. olivifolia* Duth. in Fl. Brit. Ind. II, p. 495 (1878).

20. **Syzygium Lewisii** sp. nov.*

Tree; twigs cylindrical; leaves 3–4 in. long, 1–1½ in. broad, elliptic-lanceolate, tapering to base, long acuminate, rather thick; venation prominently reticulate; petiole nearly ½ in. long; fls. shortly stalked, in threes, cymes very large, about 2 in. long, usually in the axils of present leaves; calyx obovoid-urceolate; fruit not seen.

Ellaboda Kande (F. Lewis). Fls. March.
Endemic.

*Page* 174.—For *Eugenia Gardneri* Duth. read:

21. **Syzygium Gardneri** Thw. Enum. p. 117 (1859); Gamble l. c. p. 879. *Eugenia Gardneri* Bedd. For. Man. p. 108 (1874?).

*Page* 173.—For *Eugenia lissophyllum* Duth. read:

22. **Syzygium rubicundum** W. & A. Prodr. p. 330 (1834); Gamble l. c. p. 479. *S. lissophyllum* Thw. Enum. p. 117 (1859). *Eugenia rubicunda* Wight Ic. t. 538 (1843). *E. lissophylla* Bedd. For. Man. p. 108 (1874?).

*Page* 175.—For *Eugenia micrantha* Duth. read:

23. **Syzygium micranthum** Thw. Enum. p. 117 (1859). *Eugenia micrantha* Bedd. For. Man. p. 108 (1874?) nec DC. nec Bertol.

*Page* 177.—For *Eugenia rotundifolia* Wight read:

24. **Syzygium rotundifolium** Arn. Pug. p. 17 (1836). *Eugenia rotundifolia* Wight Ill. II, p. 17 (1850) non Cas.

*Page* 178.—For *Eugenia sclerophylla* Duth. read:

25. **Syzygium schlerophyllum** Thw. Enum. p. 118 (1859). *Eugenia schlerophyllum* Bedd. For. Man. p. 108 (1874?).

*Page* 177.—For *Eugenia cyclophylla* Thw. read:

26. **Syzygium cyclophyllum** (Thw.). *Eugenia cyclophylla* Thw. ex Duthie in Fl. Brit. Ind. II, p. 494 (1878) non Berg.
Kunadiyaparavita (F. Lewis).

27. **Syzygium spissum** nom. nov. *Myrtus androsæmoides* Linn. Sp. Pl. p. 472 (1753) nec *Syzygium androsæmoides* Walt. nec *Eugenia androsæmoides* DC. nec Wight nec Bedd.
Rangala; Sabaragamuva; Kunadiyaparavita; Ratnapura; Colombo.
Endemic.

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* *S. rubicundi* affinis, sed nervis crebre reticulatis differt.—Typus—Ellaboda Kande, *F. Lewis*.

*Page* 176.—For *Eugenia cordifolia* Wight read:

28. **Syzygium cordifolium** Walp. Rep. II, p. 179 (1843); Thw. Enum. p. 116 pp.; Trim. Fl. Ceyl. II, p. 176 pp. *Eugenia cordifolia* Wight l. c. t. 544 (1843); Duthie in Fl. Brit. Ind. II, p. 491. *Eugenia androsæmoides* Bedd. Fl. Sylv. Anal. Gen. p. CVII (1874?).

Adam's Peak; Polevatu Mukelane; Hewesse.

Endemic.

## 2 EUGENIA *Linn.*

Leaves petiolate, usually cuneate or rounded at the base (rarely cordate no. 2).
Fls. over 1 in. diam.:
Leaves $1\frac{1}{2}$–2 in., rotundate, revolute; pedicels 0·3–1·4 in. long; fls. white; young parts sparingly grey pubescent; fruit over 1 in.; bush . . . . 1. E. COTINIFOLIA.
Leaves over 4 in.; pedicels 0·1–0·4 in. long:
Leaves cordate, ovate; fls. pinkish; young parts ferrugineous pubescent; large bush or small tree . . . 2. E. HAECKELIANA.
Leaves cuneate at the base, lanceolate; fls. red; young parts glabrous; fruits pear-shaped . . . . . *E. malaccensis.*
Fls. under 1 in. diam:
Flowers pedicelled:
Pedicels short, up to 0·3 in.
Leaves long acuminate:
Young parts ferrugineous; lvs. $2\frac{1}{2}$–5 in.; fruit over $\frac{3}{4}$ in.; fls. greenish-white; moderate-sized tree . 3. E. TERPNOPHYLLA.
Young parts glabrous; lvs. $\frac{3}{4}$–3 in. . . . . . . 5. *E. phillyræoides.*
Leaves shortly acuminate or rounded at the apex; bushes or small trees:
Young parts ferrugineous; lvs. $2\frac{1}{2}$–5 in.; fruit $\frac{1}{2}$ in.; fls. white, scented . . . . . 4. E. XANTHOCARPA.
Young parts with white hairs; lvs. $\frac{3}{4}$–3 in.; fruit $\frac{3}{8}$–$\frac{1}{4}$ in. . . 5. E. PHILLYRÆOIDES.
Young parts glabrous, fruit $\frac{3}{8}$–$\frac{1}{2}$ in.:
Leaves acuminate at base; fruit globose; fls. pale green . . 6. E. MABÆOIDES.
Leaves rotundate; fruit ovoid; fls. white . . . . . 7. E. APRICA.
Pedicels long, usually over 0·3 in.:
Leaves glabrous beneath, obtuse:
Leaves small up to 3 in. long:
Calyx ferrugineous-pubescent; fruit subglobose, orange . 8. E. BRACTEATA.
Calyx glabrous:
Pedicels $\frac{3}{4}$–$2\frac{1}{2}$ in. long; fls. large 9. E. PEDUNCULATA.

Pedicels up to 1 in long:
Fruit obovoid, red; fls. rather small . . . . . 5. *E. phillyræoides.*
Fruit subglobose, red; fls. large; pedicels 0·7 in. long . . . . . *E. uniflora.*
Leaves large over 3½ in. calyx glabrous; fruit ¾ in., globose, crimson . . . . . 12. E. THWAITESII.
Leaves ferrugineous-puberulous beneath, acute, long acuminate; fruit ¼ in. . . . . . . 13. E. RUFOFULVA.
Flowers sessile or subsessile; leaves large, long acuminate:
Calyx glabrous; fruit ¾ in. . . 14. E. GLABRA.
Calyx pubescent:
Calyx white-pubescent; fruit white pubescent; fls. under ¾ in., white; lvs. over 6 in. 15. E. INSIGNIS.
Calyx ferrugineous-pubescent:
Fls. under ¾ in. diam., white; lvs. under 5 in. . . 16. E. FULVA.
Fls. about 1 in. diam.:
Leaves 2–4 in. broad; fls. violet-pink; fruit 1 in. dark brown . . . 17. E. RIVULORUM.
Leaves up to 2 in. broad; fls. bluish-white . . 18. E. FLOCCIFERA.
Leaves sessile, cordate at the base:
Fls. subsessile; leaves 1–2½ in. long . . 10. E. ROTUNDATA.
Fls. pedicelled; leaves 3–6 in. long . . 11. E. AMŒNA.

For *E. lucida* Lam. read:

1. **E. cotinifolia** Jacq. Obs. Bot. iii, p. 2 (1764). *E. lucida* Lamk. Encycl. iii, p. 205 (1791) non Banks. *E. elliptica* Lamk. l. c.

3. **E. terpnophylla** Thw.
Kitulgala.

4. **E. xanthocarpa** Thw.
Colombo (Ferguson). This specimen was doubtfully referred to *E. bracteata* Roxb. by Trimen.

For *E. Mooniana* Wight read:

5. **E. phillyræoides** Trim. in Journ. Bot. XXIII, p. 207 (1885). *E. Mooniana* Wight Ill. II, p. 13 (1850) non Gardn.

*Page* 188.—For *E. Michelii* Lam. read:

E. UNIFLORA Linn. Sp. Pl. p. 470 (1753) pp.; Bot. Mag. t. 8599; Urb. in Engl. Jahrb. XIX, p. 620. *Myrtus brasiliana* Linn. Sp. Pl. p. 471 (1753).

12. **E. amœna** Thw.
Pasdun Korale; Ratnapura.

13. **E. Thwaitesii** Duth.
Near Galle.
This is the long pedicelled plant mentioned by Trimen under *E. decora.*

For *E. decora* Thw. read:

15. **E. glabra** nom. nov.* *E. decora* Thw. Enum. p. 115 (1859) pp. nec Salisb. nec Wall.

18. **E. rivulorum** Thw.
Uguduwagoda.

19. **E. floccifera** Thw.
Morawak Korale.

*Page* 189.—For *Barringtonia speciosa* Forst. read:

1. **B. asiatica** Kurz, in Journ. As. Soc. Beng. XLV, p. 70 (1873). *Mammea asiatica* Linn. Sp. Pl. p. 731 (1753). *M. speciosa* Forst. Char. Gen. t. 76 (1776).

2. **B. racemosa** Bl. **Samuthrum,** *T.* (Gamble).

3. **B. zeylanica** Bl.

Leaves light green; midrib reddish; infl. reddish; calyx green with reddish blotches; petals greenish-red; stamen filaments and style bright red.

Rambukkana.

*Page* 191.—For *Careya arborea* Roxb. read:

**C. coccinea** A. Chev. Cat. Saig. p. 64 (1919). *Meteorus coccineus* Lour. Fl. Cochinch. p. 410 (1790). *Careya arborea* Roxb. Cor. Pl. III, p. 14 (1819). **Ayma,** *T.* (Gamble).

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## LIII.—MELASTOMACEÆ.

Add to key:

Fruit baccate:
Stam. very unequal . . . . . . . *Marumia.*
Stam. subequal . . . . . . . 5. MEDINELLA.

### 1. OSBECKIA *Linn.*

Calyx-tube subglabrous; leaves usually subglabrous above . . . . . . . 1. O. OCTANDRA.
Calyx clothed with simple hairs; leaves hairy above:
Leaves under $1\frac{1}{4}$ in., 3 or rarely 5 nerved:
Leaves acute, elliptic:
Petals 4; leaves glabrescent . . . . 2. O. RHEEDII.

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* Species insignis, floribus sessilibus calycis lobisque glabris ab omnibus speciis zeylanicis differt.—Typus—near Galle, *Thwaites* C.P. 3545 pp.

Petals 5; leaves densely hairy beneath . 3. O WALKERI.
Leaves rounded at the apex, oblong or rotundate; petals 5:
Leaves with adpressed hairs above, densely hairy beneath . . . . . . . 4. O. BECKETTII.
Leaves glabrous above, woolly beneath . 5. O. LANATA.
Leaves $1\frac{1}{2}$–2 in., 5 nerved, lanceolate, sparsely hairy; fls. $1\frac{1}{2}$–$1\frac{3}{4}$ in.; branches tetragonous . 6. O. ASPERA.
Calyx-tube with simple hairs; lobes with stellate hairs; leaves hairy above; branches obscurely tetragonous:
Leaves $1\frac{1}{2}$–2 in.; fls. 3–6-nate, $2\frac{1}{2}$ in.; young parts very sparsely adpressed pilose . . 7. O. KLEINII.
Leaves under $\frac{3}{4}$ in.; fls. solitary; young parts densely adpressed setulose . . . . . 8. O. MINOR.
Calyx-tube with stellate hairs:
Leaves more or less hairy beneath, usually acute:
Leaves 3 nerved; petals 4 . . . . . 9. O. ZEYLANICA.
Leaves 5 nerved:
Plants erect; petals 5 . . . . . . 10. O. WIGHTIANA.
Plants prostrate:
Petals 5; calyx densely hairy . . . 11. O. MOONII.
Petals 4; calyx narrower rather sparsely hairy . . . . . . . . 12. O. CUPULARIS.

*Page* 196.—For *O. Walkeri* var. *Beckettii* Thw. read:

4. **O. Beckettii** sp. nov. *O. Walkeri* var. *Beckettii* Thw. ex Triana in Trans. Linn. Soc. XXVIII, p. 34 (1871).

A very small, much branched shrub; twigs cylindrical, densely villous; leaves $\frac{1}{4}$–$\frac{1}{2}$ in., broadly obovate-oblong, tapering to the base, rounded and emarginate at the apex, closely adpressed hairy above, densely villous beneath, 3-nerved; margins revolute; petiole very short; fls. $1\frac{1}{2}$ in., solitary, sessile; calyx thickly covered with adpressed hairs; segments linear erect; petals 5.

Upper montane zone; rare. Wattekellie Hill; Knuckles. Endemic.

*Page* 197.—For *O. buxifolia* var. *minor* Thw. read:

5. **O. lanata** sp. nov. *O. buxifolia* var. *minor* Thw. Enum. p. 105 (1859).

Shrub; branches covered with thick ferrugineous wool; leaves numerous, crowded, 3 in. long, oblong-rotundate, subcordate at the base, emarginate at the apex, 3-nerved, glabrous above, densely woolly beneath; margin revolute; petals very short; flowers $1\frac{1}{2}$ in., sessile; calyx densely covered with simple, rufous hairs; lobes subulate; petals 5, glabrous.

Upper montane zone, above 6000 ft., rare? Totapella; Horton Plains; Nuvara Eliya; Adam's Peak. Fls. Jan.–March.

6. **O. aspera** Bl., excluding all the varieties.
Also in S. India.

For *O. aspera* var. *Kleinii* Clarke read:

7. **O. Kleinii** Arn. in Hk. Comp. Bot. Mag. II, p. 309 (1836); Gamble, Fl. Madr. p. 492 (1919). *O. aspera* var. *Kleinii* Clarke, in Fl. Brit. Ind. II, p. 519 (1879).
Dry region; common.
Also in S. India.

For *O. aspera* var. *minor* Clarke read:

8. **O. minor** Triana, in Trans. Linn. Soc. XXVII, p. 55 (1871); Gamble l. c. p. 492. *O. aspera* var. *minor* Clarke, in Fl. Brit. Ind. II, p. 519 (1879).
Low country; very rare. East Matale. Fl. June.
Also in S. India.

For *O. rubicunda* Arn. read:

10. **O. Wightiana** Benth. in Wall. Cat. no. 4060; W. & A. Prodr. p. 323 (1834); Gamble l. c. p. 493. *O. rubicunda* Arn. in Hk. Comp. Bot. Mag. II, p. 309 (1836). ?*O. elliptica* Naud. in Ann. Sc. Nat. Sér., 3, XIV, p. 62 (1850). *O. Kotigueda* Naud. l. c. p. 64; *O. glauca* Benth. in Wall. Cat. no. 4073; Triana in Trans. Linn. Soc. XXVIII, p. 54 (1871); Clarke in Fl. Brit. Ind. II, p. 519 (1879) non Wall. *O. aspera* var. *Wightiana* Trim. Fl. Ceyl. II, p. 198 (1894).
Montane zone up to 7000 ft. common.
Also in S. India.
This may include several species.

12. **O. cupularis** Don, ex W. & A. Prodr. p. 323 (1834); Gamble l. c. p. 494. *O. erythrocaphala* Naud. in Ann. Sc. Nat., ser., 3, XIV, p. 58 (1850). *O. cupularis* var. *purpurascens* Wawra, It. Cob. I, p. 33 (1872). *O. parvifolia* Arn. in Hk. Comp. Bot. Mag. II, p. 308 (1836). ?*O. elliptica* Naud. in Ann. Sc. Nat., ser. 3, XIV, p. 62 (1850).
Also in S. India.
I doubt if *O. Moonii* is really distinct from this.

## 2. MELASTOMA *Linn.*

Cogniaux, in Mon. Phan. III, p. 354, reduces *M. Royenii* to *M. polyanthum* Blume, and distinguishes the species as follows:

Flores juniores bracteis sæpius 4 magnis subspathulatis involucrati . . . . . *M. malabathricum.*
Flores ebracteati vel minute bracteati.
  Calycis lobi ovato-oblongi, tubum æquantes . *M. ellipticum.*
  Calycis lobi sæpissime lineari-subulati, tubo breviores . . . . . . . . *M. polyanthum.*

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1. **Sonerila zeylanica** W. & A. Prodr. p. 322 (1834). *S. pumila* Thw. Enum. p. 109 (1859).
Also in Borneo?

**Part II.**

Var. **affinis** Stapf. in Ann. Bot. VI, p. 295 (1892). *S. affinis* Arn. in Comp. Bot. Mag. II, p. 307 (1836). *S. glaberrina* Arn. l. c. *S. cordifolia* Cogn. in Mem. Phan. VII, p. 502 (1891). *S. rostrata* Thw. Enum. p. 108 (1859). *S. rhombifolia* Thw. l. c.

Anthers more attenuate or rostrate, 0·15–0·25 in. long; leaves with usually distant, widely spreading teeth.

Muttelugama; Wattagoda; Singhe Raja Forest; Kunadiyaparavita; Ambagamuva; Kukul Korale; Hiniduma, Adam's Peak; Reigam Korale.

2. **S. Brunonis** W. & A.
Hakgala?

*Page* 202.—For *S. Arnottiana* Thw. and *S. Wightiana* Arn. read:

3. **S. Wightiana** Arn. in Hk. Comp. Bot. Mag. II, p. 307 (1836). *S. Hookeriana* Arn. l. c. p. 308. *S. Arnottiana* Thw. Enum.
Montane zone; rare.
Adam's Peak; Dolosbage; Horton Plains; Maskeliya; Bopatalava; Ambagamuva; Sabaragamuva; Agalavatta; Ohiya.
Endemic?

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4. **S. hirsutula** Arn.
Pedurutalagala; Kunadiyaparavita; Nuvara Eliya; Horton Plains, foot of Totapella.

5. **S. Gardneri** Thw.
Galagama; Adam's Peak; Watakellie Hill; Horton Plains; Dumbanagala Hill, Rangala.

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6. **S. robusta** Arn.
Adam's Peak; near Maturata; near Palagala; Bopatalava.
Stapf, l. c., thinks that *S. Harveyi* Thw. may be distinct.

7. **S. lanceolata** Thw.
Karavita Kande; Kukul Korale; Ellaboda Kande; Singhe Raja Forest.

*Page* 207.—

8. **S. pilosula** Thw.
Palabadala, Kuruvita Korale; Meddekande, Balangoda; Galpothanamahena, Delgoda.

9. **S. linearis** Hk. f.
Hevesse; Dotalukande.

*Page* 203.—For *S. robustifolia* var. *angustata* Thw. read:

10. **S. angustata** Triana in Trans. Linn. Soc. XXVIII, p. 498 (1871) nomen; Cogn. l. c. 498 (1891). *S. rhombifolia* var. *angustata* Thw. ex Trim. Fl. Ceyl. II, p. 203 (1894).
Galle district.

*Page* 208.—

11. **S. pedunculosa** Thw.
Endemic.
*Marumia zeylanica* Blume.
This reduced to the Javanese, *M. annulata* Triana by Cogn., l. c., p. 500.

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## 6. MEMECYLON *Linn.*

Leaves large, over 4 in. long, penniverved :
  Leaves ovate or elliptic, petiolate :
    Fls. sessile; leaves drying blackish-brown . . . . . . 1. M. PROCERUM.
    Fls. pedicellate; leaves drying green . 2. M. GIGANTEUM.
  Leaves lanceolate :
    Pedicels longer than the calyx :
      Lateral veins inconspicuous beneath; fls. bluish-white . . . . . 3. M. WIGHTII.
      Lateral veins very conspicuous beneath; fls. violet . . . . . 4. M. HOOKERI.
    Pedicels shorter than the calyx :
      Leaves cordate or rounded at the base :
        Nerves very conspicuous beneath . *M. Hookeri.*
        Nerves inconspicuous beneath; fls. white . . . . . . 5. M. MICROPHYLLUM.
      Leaves cuneate at the base; fls. white :
        Nerves rather conspicuous; leaves thin, drying green . . . . 6. M. CLARKEANUM.
        Nerves inconspicuous; leaves thick, drying brown . . . . 7. M. DISCOLOR.
Leaves under 4 in. long :
  Leaves penninerved :
    Leaves from orbicular to lanceolate :
      Leaves with long petioles $\frac{1}{3}$ as long as the lamina . . . . 8. M. PETIOLATUM.
      Leaves with shorter petioles under $\frac{1}{6}$ as long as the lamina :
        Flowers distinctly pedicelled; pedicels at least as long as the calyx :
          Leaves rounded or cordate at the base :
            Leaves lanceolate, acuminate *M. Wightii.*
            Leaves oblong-rotundate, not acuminate :
              Fls. in branched cymes, white; fruit subglobose . 9. M. REVOLUTUM.
              Fls. fascicled :
                Leaves revolute; fruit ellipsoid . . . 10. M. OVOIDEUM.

Lvs. not revolute; fruit subglobose; fls. bright blue . . . . . 11. M. ORBICULARE.
Leaves cuneate at the base:
Nerves of the leaves visible, at least in the dried specimens, surface shiny.
Fls. in branched cymes or umbells:
Pedicels 3 times as long as the calyx; fls. white . . . . 12. M. LEUCANTHUM.
Pedicels about as long as the calyx:
Leaves 4–6 in. long; fls. pale purplish-blue 13. M. GRANDE.
Leaves up to 3 in. long; fls. violet-blue . . *M. capitellatum.*
Fls. fasciculate, white . *M. ellipticum.*
Nerves of the leaves not visible; surface not shiny:
Twigs slightly quadrangular; fls. minute . . 14. M. RHINOPHYLLUM.
Twigs not quadrangular; fls. larger:
Fls. in simple umbells ½ as long as the leaves 15. M. GRACILLIMUM.
Fls. in branched cymes or fasciculate:
Leaves strongly acuminate; fls. fasciculate, pale blue. 16. M. ROSTRATUM.
Leaves slightly acuminate or rounded at the apex:
Leaves over 2½ in.; fls. blue . . 17. M. OVATUM.
Leaves under 2½ in.; fls. bright blue . 18. M. UMBELLATUM.
Flowers sessile or with pedicels less than ½ the length of the calyx:
Leaves slightly acuminate or rounded at the apex:
Leaves elliptic or lanceolate; fls. violet-blue:
Infl. a stalked umbell . . 19. M. CAPITELLATUM.
Infl. a branched cyme . . 20. M. SYLVATICUM.
Leaves obovate:
Twigs cylindrical; fls. fasciculate . . . . 21. M. CUNEATUM.
Twigs 4-angled:
Fls. fasciculate; white . 22. M. PARVIFOLIUM.
Fls. in stalked umbells; pale blue or white . *M. varians.*

Leaves strongly acuminate:
  Leaves drying dark green or brown, elliptic:
    Twigs cylindrical . . . 23. M. FUSCESCENS.
    Twigs 4-angled . . . 24. M. ELLIPTICUM.
  Leaves drying light green; twigs 4-angled; leaves lanceolate:
    Leaves thin; cymes few-flowered . . . . 25. M. ELEGANTULUM.
    Leaves thick; cymes dense . 26. M. VARIANS.
Leaves linear-lanceolate:
  Leaves 2–3 in. long . . . . 27. M. ANGUSTIFOLIUM.
  Leaves under ½ in. long, not acuminate 28. M. PHYLLANTHIFOLIUM.
Leaves prominently 3-nerved:
  Twigs cylindrical . . . . . 29. M. ARNOTTIANUM.
  Twigs quadrangular . . . . 30. M. GARDNERI.

2. **M. giganteum** sp. nov.*

Tree?; twigs cylindrical; leaves very large, elliptic-lanceolate, 6–8 in. long, 2–3 in. broad, cuneate at the base, acuminate; petiole about 0.4 in. long; fls. pedicellate, pedicels ¼ in. long; fruit 0·4 in.

Moist low country, rare. Hiniduma Pattu; Kukul Korale. Fls. June, August.
Endemic.

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5. **M. macrophyllum** Thw.
Kottawa Forest Reserve.

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6. **M. Clarkeanum** Cogn.
Karavita Kande.

8. **M. petiolatum** Trim. m.s.†

A tree with a simple trunk; leaves 2–2½ in. long, ovate-lanceolate rounded or cuneate at the base, acuminate; apex obtuse; petiole ½ in., long; infl. a large compound cyme; pedicels nearly twice as long as the calyx; disk rays distinct but not winged; fruit small, under ½ in.

Dry low country; rare. Kantelai; Batticaloa. Fl. August, Sept.
Endemic.

*Page* 220.—

12. **M. leucanthum** Thw.
Kalupahana, Lagalla.

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* *M. proceri* affinis, sed floribus pedicellatis differt.—Typus: Hiniduma Pattu, *Thwaites*.

† *M. leucanthi* distante affinis, sed foliis longe petiolatis differt.—Typus: Kantelai, *Trimen*.

15. **M. gracillimum** sp. nov.*

Shrub?; twigs very slender, cylindrical; leaves small, 1–2½ in. long, elliptic, cuneate at the base, slightly acuminate and obtuse at the apex, somewhat 3-nerved at the base; lateral nerves very indistinct; petiole very short; fls. in simple, long stalked umbells; pedicels rather longer than the calyx; fruit ⅕ in.

Doluve Kande. Fls. Sept.
Endemic.

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19. **M. rostratum** Thw.
Doluve Kande.

*Page* 221.—For *M. grande* var. *ovatum* Clarke read:

17. **M. ovatum** Sm. in Rees, Cycl. XXIII, no. 3 (1812). *M. edule* var. *ovatum* Clarke, in Fl. Brit. Ind. II, p. 557 (1879). *M. grande* var. *ovatum* Trim. Fl. Ceyl. II, p. 221 (1894).
Moist low country; rather common. Doluve Kande; Veligama; Colombo; Ratnapura; Kurunegala. Fls. Sept., June, blue.

*Page* 220.—For *M. lævigatum* Bl. read:

20. **M. sylvaticum** Thw. Enum. p. 110 (1859); Cogn. in Mon. Phan. VII, p. 1150. *M. lævigatum* Trim. Fl. Ceyl. II, p. 220 (1894)? Bl.

*Page* 213.—

22. **M. parvifolium** Thw.
Maturata; Hakgala; Horton Plains.
Var. **Thomsoni** Triana.
Adam's Peak; Ramboda; Bogavantalava.

27. **M. angustifolium** Wight.
Var. **riparium** var. nov.

As *M. angustifolium* but flowers larger, in dense, many-flowered cymes; leaves scarcely acuminate.

Haragama; Uma-oya. Fls. Apr., July.

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29. **M. Arnottianum** Wight.
Var. **grandifolium** Cogn. in Mon. Phan. VII, p. 1135 (1891).
Gilimale; Tittaveraluva Kotha.

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* *M. umbellati* affinis, sed inflorescentibus longe pedunculatis differt. —Typus: Doluve Kande, Sept., 1892, *H. Trimen*.

# LIV.—LYTHRACEÆ.

*Page* 223.—For *Ammannia* L. read:

Fls. solitary . . . . . . . . . 1. ROTALA.
Fls. in cymes or clusters:
  Placenta in the ovary not continuous with the style . 1a. AMMANIA.
  Placenta in the ovary continuous with the style . 1b. NESÆA.

## 1. **ROTALA** *Linn.*

Perennial or perennial herbs; l. opposite, whorled or rarely alternate; stip. 0; fls., in the Ceylon species, solitary and axillary; bracteoles 2; cal.-lobes 3–6, often with an epicalyx; petals 3–6, rarely 0; stam. 1–6; ovary 2–4-celled, with many ovules in each cell; capsule septicidally dehiscent.—Sp. 32; cosmopolitan.

For *Ammania peploides* Spr. read:

1. **Rotala indica** Koehne, in Engl. Bot. Jahrb. I, p. 172 (1890). *Peplis indica* Willd. Sp. Pl. II, p. 244 (1799). ?*Ammania nana* Roxb. Fl. Ind. I, p. 427 (1820). *A. peploides* Spr. I, p. 444 (1825).

For *Ammania Rotala* F. Muell. read:

2. **Rotala verticillaris** Linn. Mant. p. 175 (1771). *Ammania verticillaris* Baill. Hist. Pl. VI, p. 439 (1877). *A. Rotala* Trim. Fl. Ceyl. II, p. 214 (1894) non F. Muell.

For *Ammania pentandra* Roxb. read:

Style $\frac{1}{2}$–$\frac{2}{3}$ as long as the ovary; calyx-lobes triangular, acute; petals rather large; floral leaves usually much smaller than the others . . 3. R. DENSIFLORA.
Style as long or longer than the ovary; calyx-lobes very short; petals very small; floral leaves not conspicuous, smaller than those of the stem . *R. leptopetala.*

3. **Rotala densiflora** Koehne, in Engl. Bot. Jahrb. I, p. 164 (1880). *Ammania densiflora* Roth, in Roem. & Schult. Syst. III, p. 304 (1818). *A. pentandra* Roxb. Fl. Ind. I, p. 448 (1820) pp.; Trim. Fl. Ceyl. II, p. 224 (1894) pp.
Also in Africa, S.E. Asia and Tropical Australia.

R. LEPTOPETALA Koehne, in Engl. Bot. Jahrb. IV, p. 388 (1883). *Ammania pentandra* Trim. Fl. Ceyl. II, p. 224 (1894) pp. ?Roxb. *A. leptopetala* Bl. Mus. Bot. Lugd. Bat. II, p. 134 (1852).
Throughout Southern and Eastern Asia.
I have seen no specimens of this. Blatter and Hallberg, in Journ. Bomb. Nat. Hist. Soc. XXV, p. 707, reduce it to *R. densiflora* Koehne, probably correctly.

### 1b. NESÆA *Comm.*

Annual or perennial herbs or shrubs; lvs. opposite or whorled; stip. 0; fls., in the Ceylon species, in axillary cymes; bracteoles 2, cal.-lobes 4–8; petals 4–8, rarely 0; stam. 4 or more; ovary 2–5-celled, with many ovules in each cell; capsule circumscissile or irregularly dehiscent.—Sp. 30; cosmopolitan.

*Page* 225.—For *Ammania cordata* W. & A. read:

1. **Nesæa brevipes** Koehne, in Engl. Bot. Jahrb. III, p. 326 (1882). *Ammania cordata* W. & A. Prodr. p. 304 (1834). *N. cordata* Hiern.
Ella.

For *Ammania lanceolata* Heyne read:

2. **Nesæa lanceolata** Koehne, in Engl. Bot. Jahrb. III, p. 325 (1882). *A. lanceolata* Heyne in Wall. Cat. no. 2106; Clarke in Fl. Brit. Ind. II, p. 57 (1879).

*Page* 226.—For *Woodfordia floribunda* Salisb. read:

**W. fruticosa** Kurz, in Journ. As. Soc. Beng. XL, p. 56 (1871). *Lythrum fruticosum* Linn. Sp. Pl., ed. 2, p. 641 (1762). *W. floribunda* Salisb. Parad. Lond. t. 42 (1806).

*Page* 228.—For *Lawsonia alba* Lamk. read:

**L. inermis** Linn. Sp. Pl. p. 347 (1753). *L. spinosa* Linn. l. c. *L. alba* Lamk. Encycl. III, p. 106 (1791).

*Page* 228.—For *Lagerstrœmia Flos-reginæ* Retz. read:

**L. speciosa** Pers. Syn. II, p. 72 (1807). *Munchausia speciosa* Linn. in Muench. Hausv. V, p. 357 (1770). *Lagerstrœmia major* and *L. javanensis* Retz. Obs. I, p. 20 (1779). *L. Flos-reginæ* Retz. Obs. V, p. 25 (1789). *Adambea glabra* Lamk. Encycl. I, p. 39 (1783). **Kadali, Pu-maruthu,** *T.* (Gamble).

**Sonneratia acida** Linn. f.

Add syn:

*S. caseolaris* Engl. Nat. Pfl. Nachtr. I, p. 261 (1897). *Rhizophora caseolaris* Linn. in Stickm. Herb. Amb. p. 13 (1754) pp. *S. pagatpat* Blanco Fl. Filip. p. 424 (1837).
I have not changed the name of this as the type of *Rhizophora caseolaris* Linn. was *S. alba* Sm.

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**Axinandra zeylanica** Thw.
Kitulgalla (F. Lewis); Bambarabotuva (F. Lewis). Kottava Forest (F. Lewis).

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## LV.—ONAGRACEÆ.

Add to key:

Stam. 8 or 10:
Capsule septicidal . . . . . . . . 1. JUSSIÆA.
Capsule loculididal . . . . . . . . *Œnothera.*

### 1. JUSSIÆA *Linn.*

Stems creeping or floating; petals 5, yellowish-white . . . . . . . . 1. J. REPENS.
Stem erect; petals usually 4, yellow:
Corolla under 1 in.; fruit cylindric:
Corolla ¼ in. across; plant quite glabrous; fl. sessile . . . . . . . . 2. J. TENELLA.
Corolla ¾ in. across; plant glabrous to villous; fls. subsessile . . . . . 3. J. SUFFRUTICOSA.
Corolla 2 in.; fruit turbinate; plant villous; fls. pedicellate . . . . . . 4. J. PERUVIANA.

2. **J. tenella** Burm. f. Fl. Ind. p. 103 t. 34 f. 2 (1768). *J. suffruticosa* Linn. Sp. Pl. p. 556 (1753) pp. quoad syn. Rheede; Merr. in Phil. Journ. Sc. XIX, p. 367 (1921); Clarke in Fl. Brit. Ind. II, p. 587 (1879) pp.; Ridl. in Journ. Bot. LIX, p. 257 (1921). *J. linifolia* Vahl Eclog. Amer. II, p. 32 (1798); Merr. in Phil. Journ. Sc. Bot. VII, p. 240 (1912); Fawcett in Journ. Bot. LXIV, p. 12 (1926). *Ludwigia prostrata* Auct. non Roxb.

Semi-shrubby perennial, 1–2 ft., glabrous; l. 1–2 in., lanceolate, shortly petioled; fl. small, ¼ in. across, sessile; petals broadly elliptic, acute; stamens 8; capsule 1 in.; seeds minute, pale brown.

Low country, common on bunds of paddy fields. Peradeniya; Kalutara; near Colombo (N. G. Ball). Fls. June, Sept., Nov.; yellow.
Throughout the tropics (?native of America, Merrill).

3. **J. suffruticosa** Linn. Sp. Pl. p. 556 (1753) excl. syn. Rheede; Benth. Fl. Austral.; Merr. Int. Rumph. p. 406 (1917); Fawcett l. c. p. 12 (1926). *J. erecta* Linn. Sp. Pl., ed. 2, p. 556 (1762) non ed. 1; Ridl. l. c. f. 258 (1921); Livera l. c. p. 199 (1924). *J. suffruticosa* var. *subglabra* Trim. Fl. Ceyl. II, p. 233 (1894) pp.

Leaves 2–4 in., lanceolate, subglabrous; fls. ¾ in. across, subsessile; petals emarginate; stam. 8.

Wet places in moist low country up to 3000 ft. rather rare. Ganoruva; near Kandy. Fl. Feb.
Forma **villosa** (Lamk.). *J. villosa* Lamk. Encycl. III, p. 331 (1791); Ridl. l. c. p. 259 (1921); Livera l. c. p. 200 (1920).

Leaves and capsule pubescent:

Near Galle; near Kandy. Fl. Sept., Oct.
Forma **angustifolia** (Lamk.). *J. angustifolia* Lamk. Encycl.

III, p. 231 (1791). *J. erecta* var. *exaltata* Ridl. l. c. p. excl. syn. Roxb.; Livera l. c.

Leaves narrow, subglabrous.

Near Bandaravela, Uva. Fl. Sept.
Tropical Asia and America.

Linnæus's description of *J. erecta* and the specimen in his Herbarium are *J. Onagra* Mill. The first citation is, however, Hermann's plant which is this species. Linnæus describes his *J. suffruticosa* as "villosa," while Ridley's plant is "quite glabrous." Rheede's is the last synonym cited by Linnæus and there is no reason to regard it as the type.

Roxburgh's *J. exaltata* was published in the Hort. Beng. and based on Hort. Malab. VI, t. 80 which Ridley himself refers to *J. erecta* (*J. suffruticosa*).

4. **J. peruviana** Linn. Sp. Pl. p 388 (1753); Fawcett l. c. p. 13 (1926). *J. hirta* Sw. Obs. p. 142 (1791). *J. speciosa* Ridl. l. c. p. 289 (1921); Livera l. c. p. 200. *J. suffruticosa* Trim. Fl. Ceyl. II, p. 233 (1894) non Linn.

Low country; common in wet places. Haragama; Maturata; Peradeniya; Bandaravela. Fls. Jan.-June; yellow.
Tropical Asia and America.

*Page* 234.—For *Ludwigia parviflora* Roxb. read:

1. **L. perennis** Linn. Sp. Pl. p. 119 (1753). *L. oppositifolia* Linn. Syst. Nat., ed. 12, p. 135 (1766). *L. zeylanica* Pers. Syn. I, p. 145 (1805). *L. parviflora* Roxb. Fl. Ind. I, p. 419 (1820).

### Œnothera *Linn.*

Fls. white, turning pink; lvs. shallowly lobed . . *O. speciosa.*
Fls. yellow; lvs. minutely toothed . . . . *O. odorata.*

Trimen corrected the label of his specimen from *O. fruticosa* Linn. var. to *O. speciosa* Nutt.

The other species was labelled *O. odorata* or *O. biennis* by Trimen and has been identified by Mr. Biswas as *O. biennis* Linn.

*O. rosea* Ait., *O. tetraptera* Cav. and *O. odorata* Jacq. have been recorded from India.

*Page* 237.—For *Casearia esculenta* Roxb. read:

1. **C. zeylanica** Thw. Enum. p. 19 (1858). *Vareca zeylanica* Gaertn. Fruct. I, p. 290 (1788). *C. esculenta* Roxb. Fl. Ind. II, p. 422 (1832).

*Page* 237.—For *C. coriacea* Thw. read:

2. **C. Thwaitesii** Briq. in Ann. Cons. Bot. Gen. p. 62 (1898). *C. coriacea* Thw. Enum. p. 20 (1858) non Vent.

*Page* 238.—For *C. tomentosa* Roxb. read:

3. **C. elliptica** Willd. Sp. Pl. II, p. 628 (1799). *C. tomentosa* Roxb. Fl. Ind. II, p. 421 (1832).

## LVIa.—TURNERACEÆ.

Herbs; leaves simple or lobed, exstipulate; fls. hermaphrodite, regular; cal. 5-lobed, lobes imbricate; pet. 5, stam. 5, free or connate at base; anth. 2-celled, introrse; ovary superior, 1-celled; placentation parietal; ovules numerous, anatropous; capsule loculicidally dehiscent; seed arillate; endosperm horny or fleshy; embryo straight.

TURNERA *Linn.*

Leaves alternate, usually with 2 glands at the base; fls. solitary, axillary or rarely racemose.—Sp. 70; American.

T. ULMIFOLIA Linn. Sp. Pl. p. 271 (1753).

Perennial herb, sometimes woody below; l. lanceolate, 2–4 in. long, serrate, 2-glandular at base; petiole about ½ in. long; fls. up to 2 in. diam.; capsule subglobose, usually 3 valved; seeds obovoid-oblong, curved, pale brown.

Common in waste places about Colombo. Fls. Oct., Apr.; yellow. A native of Tropical America, also naturalised in India.

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## LVII.—PASSIFLORACEÆ.

Fruit a capsule; fls. diœcious . . . . . . 1. ADENIA.
Fruit a berry; fls. hermaphrodite . . . . . 2. *Passiflora.*

*Page* 240.—For *Modecca* Linn. read:

1. **ADENIA** *Forsk.*

For *Modecca Wightiana* Wall. read:

1. **Adenia Wightiana** Engl. Bot. Jahrb. XV, p. 573 (1893). *Modecca Wightiana* Wall. Cat. no. 6764 (1830); Wt. Ic. 179 (1840).

For *Modecca palmata* Lam. read:

2. **Adenia palmata** Engl. Nat. Pfl. III, 6, p. 84 (1893). *Bryonia palmata* Linn. Sp. Pl. p. 1012 (1753) pp. *Modecca palmata* Lamk. Encycl. IV, p. 209 (1796).

2. PASSIFLORA *Linn.*

Climbing or rarely erect herbs or shrubs; leaves alternate or rarely opposite; tendrils usually simple, rarely wanting; stip. 2 or wanting, sometimes leafy; fls. solitary and axillary or racemose, usually hermaphrodite; cal.-lobes 4–5, usually more or less petaloid; pet. 4–5; corona simple or double;

gynophore elongate; stam. 4–5; anth. versatile; fruit a many-seeded berry.—Sp. 120; mostly natives of Tropical America.

Involucre simple; plants glabrous:
  Plants exstipulate:
    Leaf-margin entire . . . . . . 1. *P. suberosa.*
    Leaf-margin serrate . . . . . . 2. *P. edulis.*
  Plants with leafy stipules . . . . . 3. *P. stipulata.*
Involucre pectinate; plants hairy . . . . 4. *P. fœtida.*

*Page* 241.—

1. P. SUBEROSA Linn. Sp. Pl. p. 958 (1753). *P. Walkeriæ* Wight. Ill. II, p. 39 t. 108 (1831).

Leaves about 3 in. long, ovate, simple or more or less 3-lobed, glabrous; fls. solitary, axillary, small; fruit ½ in. across, globose, dark blue.

Naturalised and very common about Peradeniya. Fls. June; green. Native of Tropical America.

2. *P. edulis* Sims. Bot. Mag. t. 1989 (1818).
Occasional escape in the hill country.
Native of Brazil.

2 or 3 pink-flowered species appear to be common about Nuvara Eliya. I have not seen *P. edulis* as an escape.

3. P. STIPULATA Aubl. Pl. Gui. II, p. 830 (1775). *P. glauca* Dryand. ex Ait. Hort. Kew III, p. 308 (1789).

Leaves 3-lobed, up to 3 in. long, glabrous, glaucous, lobes oblong, obtuse; fls. solitary, axillary, medium-sized, pedunculate, subtended by ovate bracts; fruit obovoid.

Naturalised about Nuvara Eliya; Kadugannawa; Kandy. Fls. Mar., Aug.; white.
Native of Tropical America.

4. P. FŒTIDA Linn. Sp. Pl. p. 959 (1753).

Leaves 3-lobed, up to 4 in. long; sparsely villous, lobes ovate, acute; fls. solitary, axillary, medium-sized, pedunculate, subtended by pectinate bracts; fruit ellipsoid.

Naturalized Kantelai; Delgoda. Fls. Mar., Aug.; white, usually with a purplish corona.
Native of Brazil.

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## LVIII.—CUCURBITACEÆ.

*Page* 244.—For *Trichosanthes palmata* Roxb. read:

**T. bracteata** Voigt, Cat. Hort. Calc. p. 52 (1845). *Modecca? bracteata* Lamk. Encycl IV, p. 410 (1796). *T. palmata* Roxb. Fl. Ind. III, p. 704 (1832). **Anakoruthi,** *T.* (Gamble).

*Page* 247.—For *Lagenaria vulgaris* Ser., read:

L. LEUCANTHA Rusby, in Mem. Torr. Bot. Club. VI, p. 43. *Cucurbita leucantha* Duch. in Lamk. Encycl. II, p. 150 (1782). *Lagenaria vulgaris* Ser. in Mem. Soc. Gen. III, p. 25 (1825). *Cucurbita Lagenaria* Linn. Sp. Pl. p. 1010 (1753). *Lagenaria lagenaria* Cockerell, in Bull. Torr. Bot. Club. XIX, p. 95 (1892).

*Page* 247.—For *Cephalandra* Schrad. read:

3. **COCCINEA** *W. & A.*

*Page* 247.—For *Cephalandra indica* Naud. read:

**Coccinea grandis** Kurz, in Journ. As. Soc. Beng. p. 102 (1877). *Coccinea cordifolia* Cogn. in DC. Phan. III, p. 527 (1818) non *Bryonia cordifolia* Linn. *Cephalandra indica* Naud. in Ann. Sc. Nat. sér. 5, V, p. 16 (1866). *Bryonia grandis* Linn. Mant. p. 126 (1767).

*Page* 249.—

**Momordica denudata** Clarke.
Also in S. India.

*Page* 250.—For *Cucumis trigonus* Roxb. read:

1. **C. callosa** (Ser.). *Bryonia callosa* Rottl. in Neue Schift. IV, p. 210 (1803) (*collosa*); Clarke in Kew Bull. 1894, p. 203. *Momordica ?Lambertiana* Ser., in DC. Prodr. III, p. 311 (1828). *C. trigonus* Roxb. Fl. Ind. III, p. 722 (1832).
Anuradhapura (MacMillan).

For *Cucumis pubescens* Willd. read:

2. **C. Chate** Linn. Sp. Pl., ed. 2, p. 1437 (1762). *C. pubescens* Willd. Sp. Pl. p. 614 (1805). *C. melo* var. *agrestis* Naud. in Ann. Sc. Nat., sér. 4, XI, p. 73 (1859).
There is also a cultivated variety called " Hen-kekiri."

*Page* 251.—For *Benincasa cerifera* Savi read:

B. HISPIDA Cogn. in DC. Mon. Phan. III, p. 513 (1881). *Cucurbita hispida* Thunb. Fl. Jap. p. 322 (1774). *B. cerifera* Savi, in Bibl. Ital. IX, p. 158 (1818).

*Page* 253.—

**Citullus Colocynthis** Schrad.
Talaimannar.

*Page* 253.—For *Bryonia* Linn. read:

8. **BRYONIOPSIS** *Arn.*

For *Bryonia laciniosa* Linn. read:

**Bryoniopsis laciniosa** Naud. in Ann. Sc. Nat., sér. 5, V, p. 30 (1866). *Bryonia lacinosa* Linn. Sp. Pl. p. 1013 (1753).

*Page* 254.—For *Mukia* Arn. and *Zehneria* Endl. read:

11. **MELOTHRIA** *Linn.*

For *Mukia scabrella* Arn. read:

1. **Melothria maderaspatana** Cogn. in DC. Mon. Phan. III, p. 623 (1881). *Cucumis maderaspatanus* Linn. Sp. Pl. p. 1012 (1753). *Bryonia scabrella* Linn. f. Suppl. p. 424 (1781). *Mukia scabrella* Arn. in Hk. Journ. Bot. III, p. 276 (1841). *Bryonia cordifolia* Linn. Sp. Pl. p. 1012 (1753).

For *Mukia leiosperma* Wight read:

2. **Melothria leiosperma** Cogn. l. c. p. 622. *Bryonia leiosperma* W. & A. Prodr. p. 3435 (1834). *Mukia leiosperma* Wt. in Ann. Mag. Nat. Hist. VIII, p. 268 (1842).

*Page* 256.—For *Zehneria Hookeriana* Arn. read:

3. **Melothria perpusilla** Cogn. l. c. p. 607. *Bryonia scabrata* Bl. Bijdr. p. 923 (1826). *B. perpusilla* Bl. l. c. p. 926. *Zehneria Hookeriana* Arn. in Hk. Journ. Bot. III, p. 275 (1841).

For *Zehneria hastata* Miq. read:

4. **Melothria heterophylla** Cogn. in DC. Mon. Phan. III, p. 618 (1881). *Solena heterophylla* Lour. Fl. Cochinch. p. 514 (1790). *Zehneria hastata* Miq. Fl. Ind. Bat. I, p. 656 (1855).

For *Melothria zeylanica* Clarke read:

5. **M. Thwaitesii** Schweinf. Reliq. Kotsch. p. 44 (1868) pp. *M. zeylanica* Clarke, in Fl. Brit. Ind. II, p. 626 (1872) non Koenig.
Also in S. India

*Page* 257.—For *Rhynchocarpa* Schrad. read:

12. **KEDROSTIS** *Medik.*

For *Rhynchocarpa rostrata* Naud. read:

**Kedrostis rostrata** Cogn. in DC. Mon. Phan. III, p. 636 (1881). *Bryonia rostrata* Rottl. in Nov. Act. Soc. Nat. Berol. IV, p. 212 (1803). *Rhynchocarpa rostrata* Naud. in Ann. Sc. Nat., sér. 4, V, p. 177 (1862).

*Page* 259.—For *Cerasiocarpum zeylanicum* Clarke read:

**C. Bennettii** Cogn. in DC. Mon. Phan. III, p. 729 (1881). *Bryonia Bennetti* Miq. Fl. Ind. Bat. I, p. 657 (1855). *Æchmandra zeylanica* Thw. Enum. p. 125 (1859). *Cerasiocarpum zeylanicum* Clarke, in Fl. Brit. Ind. II, p. 628 (1879).

*Page* 259.—For *Ctenolepis* Hk. f. read:

15. **BLASTANIA** *Kotschy.*

For *Ctenolepis Garcini* Clarke read:

**Blastania Garcini** Cogn. in DC. Mon. Phan. III, p. 629 (1818). *Sicyos Garcini* Linn. Mant. p. 297 (1767). *Ctenolepis Garcini* Clarke, in Fl. Brit. Ind. II, p. 629 (1879).

*Page* 265.—

**Tetrameles nudiflora** R. Br. **Chini,** *T.* (Gamble). Rambukkana; Maduwanvela (F. Lewis); Bibile.

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## LXI.—CACTACEÆ.

Pendulous epiphyte . . . . . . . . 1. RHIPSALIS.
Erect terrestrial shrubs . . . . . . . . 2. *Opuntia.*

*Page* 267.—

### 2. OPUNTIA *Mill.*

Succulent perennials, with flattened, jointed stems; fls. regular, with numerous perianth segments and stamens; styles cylindric, with numerous stigmas; fruit, a berry with numerous seeds.—Sp. 200; natives of Tropical America.

Spines 2–5 together, straw-coloured, some curved; petals yellow outside; segments glaucous . . . 1. *O. Dillenii.*
Spines usually solitary, dark-coloured at apex, all straight; petals reddish outside; segments bright green . . . . . . . . . 2. *O. vulgaris.*

1. O. DILLENII Haw. Suppl. Succ. p. 79 (1819); Burkill in Rec. Bot. Surv. Ind. IV, p. 314 (1911); Johnston & Tryon, Rep. Prickly-pear Trav. Comm. (Queensland) pp. 3, 6 f. 64 (1914). *Cactus Dillenii* Edwards, Bot. Reg. III, t. 258 (1817).

Joints flattened, broadly oblong, glaucous; spines 2–5-nate, on cushions, yellowish, often curved; fls. 4 in. diam., bright yellow.

The common species in the Jaffna Peninsula, at Trincomalee and as a hedge plant about Colombo.
Native of America.

2. O. VULGARIS Mill. Gard. Dict., ed. 8, no. 1 (1768); Burtt-Davy Fl. Transv. p. 235 (1926). *O. monacantha* Haw. l. c. p. 81 (1819); Lindl. Bot. Reg. VII, t. 1726 (1835); Burkill, l. c. p. 312 (1911); Johnston & Tryon, l. c. pp. 4–6. 8–13 (1914). *Cactus monacanthus* Willd. Enum. Hort. Berol. Suppl. p. 33 (1913).

Joint flattened, broadly obovate, bright green; spines usually solitary on the cushions, dark brown at their apices, whitish below, straight; flowers 2 in. diam., bright yellow with reddish blotches on the backs of the petals; fruit obovoid, reddish.

Low country, common but exterminated in some places by a parasite (*Coccus indicus* Green).
Native of N. America.

*Page* 269.—For *Trianthema monogyna* Linn. read:

1. **T. Portulacastrum** Linn. Sp. Pl. p. 223 (1753). *T. monogyna* Linn. Mant. p. 69 (1767).

*Page* 270.—For *Mollugo hirta* Thunb. read:

1. **M. lotoides** Clarke, in Fl. Brit. Ind. II, pp. 776, 662 (1879). *Glinus lotoides* Loefl. ex Linn. Sp. Pl. ed. 2, p. 663 (1762); W. & A. Prodr. p. 362. *Mollugo hirta* Thunb. Fl. Cap. p. 120 (1818).
The genus *Glinus* is now often separated from *Mollugo*.

*Page* 272.—

6. **M. nudicaulis** Lamk. **Kavudu-tirar** (F. Lewis). Okanda, S.P.

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## LXIII.—UMBELLIFERÆ.

Fls. in heads, simple umbels or short spikes:
  Cal.-lobes obsolete; fruit glabrous:
    Mericarp with 3 ridges; stip. cauline . . 1. HYDROCOTYLE.
    Mericarp with 7–9 ridges; stip. petiolar . . 1a. CENTELLA.
  Cal.-lobes prominent:
    Fls. sessile; lvs. spinose . . . . . 1b. *Eryngium.*
    Fls. pedicelled; lvs. unarmed . . . . 2. SANICULA.
Fls. in compound umbels:
  Fruit rounded or laterally compressed:
    Fls. yellow; l. simple . . . . . 3. BUPLEURUM.
  Fls. white:
      Primary umbels with an involucre . . 4. CARUM.
      Primary umbels without an involucre:
        Umbels subsessile, leaf opposed . . 4a. *Apium.*
        Umbels long stalked.
          L. simple or trifoliate . . . . 5. PIMPINELLA.
          L. pinnate . . . . . . 5a. *Coriandrum.*

*Page* 275.—For *Hydrocotyle rotundifolia* Roxb. read:

2. **H. sibthorpioides** Lamk. Encycl. III, p. 153 (1791). *H. rotundifolia* Roxb. Fl. Ind. II, p. 38 (1824).

### 1a. CENTELLA *Linn.*

Prostrate, perennial herbs, rooting at the nodes; l. orbicular; stip. petiolar; fls. in simple, few-flowered, axillary umbels; involucral bracts 2, small; mericarps 7–9-ridged; vittæ 0.—Sp. 20; native of the Old World Tropics.

*Page* 276.—For *Hydrocotyle asiatica* Linn. read:

**Centella asiatica** Urb. in Mart. Fl. Bras. XI, p. 287 (1879). *Hydrocotyle asiatica* Linn. Sp. Pl. p. 234 (1753).

### 1b. Eryngium *Linn.*

Herbs or shrubs, usually spiny, usually glabrous; fls. in heads or dense spikes, hermaphrodite; calyx-teeth ridged, acute; petals erect, clawed, emarginate, scarcely imbricate; fruit ovoid, scarcely compressed; vittæ usually 0; seeds subterete.—Sp. 150; cosmopolitan.

E. fœtidium Linn. Sp. Pl. p. 232 (1753); Fawc. & Rendle Fl. Jam. V, 3, p. 427 f. 154 (1926). **Andu,** *S.*

A glabrous, spiny, erect, biennial herb, about 1½ ft. high, dichotomously branched; leaves mostly radical, oblong-lanceolate, 3–5 in. long, margin spinosely toothed; bracts surrounding the spikes deeply lobed, about 1 in. long; fls. in short cylindrical spikes, spikes up to ½ in. long.

Waste grassy places. Peradeniya; Gammaduva. Fls. Apr., June, Dec.; greenish.

Native of Tropical America.

*Page 277.*—For *Bupleurum virgatum* W. & A. read:

**B. Wightii** Polj. in Journ. Russe Bot. VI, p. 7 (1913). *B. nervosum* Moon Cat. p. 22 (1814) nomen, non Trevir. *B. virgatum* W. & A. Prodr. p. 370 (1834); Trim. l. c. p. 277 nec Cav. nec Wall. *B. falcatum* Thw. Enum. p. 131 (1859) non Linn. *B. mucronatum* W. & A. non Brouss. var. *virgatum* Clarke in Fl. Brit. Ind. II, p. 676 (1879); Wolff. Umbelliferæ in Engl. Pflanzenreich IV, 228, p. 145 (1910).

Endemic.

### 4. **CARUM** *Linn.*

Fruit glabrous or minutely pubero-punctate :
  Fruit ovoid; vittæ small . . . . . . C. stictocarpum.
  Fruit elliptic-oblong; vittæ large . . . . *C. nothum.*
Fruit hispid . . . . . . . . . *C. Roxburghianum.*

C. Roxburghianum Benth.

Trimen's specimen has been transferred to *Coriandrum sativum* Linn. by Smith, apparently correctly.

### 4a. Apium *Linn.*

A. leptophyllum F. Muell. ex Benth. Fl. Austr. III, p. 372 (1866); Sprague in Journ. Bot. LXI, p. 129 (1923). *A. ammi* Urb. in Mart. Fl. Bras. XI, I, p. 241 t. 91 (1879); Petch in Ann. Perad. VII, p. 328 (1922) non Crantz. *Sison ammi* Jacq. Hort. Vindob. II, p. 95 t. 200 (1772) non Linn. *Heliosciadum leptophyllum* DC. Prodr. II, p. 105 (1830).

Appeared in waste ground at Haputale in 1917.

Native of Mexico and the Southern U.S.

### Coriandum *Linn.*

C. sativum Linn. Sp. Pl. p. 256 (1753).

An occasional weed.

A native of S. Europe.

# LXIV.—ARALIACEÆ.

L. pinnate . . . . . . . . . . 1. POLYSCIAS.
L. digitate:
  Pet. imbricate in bud . . . . . . . *Pentapanax.*
  Pet. valvate in bud . . . . . . . 2. SCHEFFLERA.

*Page* 282.—For *Heptapleurum* Gærtn. read:

2. **SCHEFFLERA** *Forst.*

For *Heptapleurum racemosum* Bedd. read:

1. **Schefflera racemosa** Harms, in Engl. u. Prantl. Nat. Pfl. III, 8, p. 36 (1894). *Heptapleurum racemosum* Bedd. Fl. Sylv. t. 214 (1873?).

For *Heptapleurum stellatum* Gærtn. read:

2. **Schefflera stellata** Baill. Hist. Pl. VII, p. 161 (1879). *Heptapleurum stellatum* Gaertn. Fruct. II, p. 472 (1791).

For *Heptapleurum exaltatum* Seem. read:

3. **Schefflera Wallichiana** Harms, in Engl. u. Prantl. Nat. Pfl. III, 8, p. 36 (1894). *Paratropia Wallichiana* W. & A. Prodr. p. 377 (1834). *Heptapleurum exaltatum* Seem. in Journ. Bot. III, p. 80 (1865).

For *Heptapleurum emarginatum* Seem. read:

4. **Schefflera emarginata** Harms, l. c. *Heptopleurum emarginatum* Seem. in Journ. Bot. III, p. 80 (1865).

*Page* 285.—For *Alangium Lamarckii* Thw. read:

1. **A. salviifolium** Wangerin, Alangiaceæ in Engl. Pflanzenreich p. 9 (1910). *Grewia salvifolia* Linn. f. Suppl. p. 409 (1781). *A. Lamarckii* Thw. Enum. p. 133 (1859). **Ruk-anguna,** *S.*

*Page* 286.—For *A. glandulosum* Thw. read:

2. **A. hexapetalum** Lamk. Encycl. I, p. 174 (1783). *A. salviifolium* subsp. *hexapetalum* Wangerin l. c. *A. glandulosum* Thw. Enum. p. 133 (1859).
Throughout Eastern Tropical Asia and in the Comoro Ils.

*Page* 287.—

**Mastixia tetrandra** var. ?**Thwaitesii** Clarke.

Panicles puberulous, becoming subglabrous; fruits $\frac{2}{3}$ in. long, ovoid-oblong.

# LXVII.—RUBIACEÆ.

Add to key:

Fruit dry:
  Fruit septicidally dehiscent:
    Carp. 2:
      Carp. very small:
        Carp. indehiscent, separating from the central axis . . . . . . 32. KNOXIA.
        Carp. dehiscent . . . . . . 45. SPERMACOCE.
      Carp. large . . . . . . . 44. HYDROPHYLAX.
    Carp. 4 . . . . . . . . . 11. FERGUSONIA.
  Fruit circumscissile:
    Petals 6 . . . . . . . . . 11a. *Richardia.*
    Petals 4 . . . . . . . . . 11b. *Mitracarpum.*

*Page* 292.—For *Sarcocephalus* Afzelius read:

1. **NAUCLEA** *Linn.*

For *Sarcocephalus cordatus* Miq. read:

**Nauclea orientalis** Linn. Sp. Pl. p. 95 (1753) pp. *Sarcocephalus cordatus* Miq. Fl. Ind. Bat. II, p. 133 (1856). *Bancalus orientalis* O. Ktze. Rev. Gen. p. 277 (1891). **Attuvangi,** *T.* (Gamble).

This was, as Trimen points out, the only species of Linnæus's genus.

*Page* 293.—

**Anthocephalus Cadamba** Miq. **Ela-bakmi,** *S.* (F. Lewis), **Vella Cadambu,** *T.* (Gamble).

Gilimale; Kuruvita; Madda (F. Lewis).

Gamble calls this *A. indicus* Rich. but *A. Cadamba* dates from *Nauclea Cadamba* Roxb.

*Page* 294.—For *Stephegyne* Korth. read:

4. **MITRAGYNA** *Korth.*

For *Stephagyne parvifolia* Korth. read:

**Mitragyna parvifolia** Korth. Obs. Naucl. Ind. p. 19 (1839) pp.; Hav. in Journ. Linn. Soc. XXXIII, p. 69 (1897). *Stepheygne parvifolia* Korth. in Verh. Ges. Nat. Bot. p. 161 (1843?). *Nauclea parvifolia* Roxb. Cor. Pl. I, p. 40 (1795).

For *Stephegyne tubulosa* Hk. f. read:

2. **Mitragyna tubulosa** O. Ktze. Rev. Gen. p. 288 (1891); Gamble Fl. Madr. p. 585 (1921). *Stephegyne tubulosa* Hk. f. in Gen. Pl. II, p. 31 (1873).

*Page* 295.—For *Nauclea* Linn. read:

5. **NEONAUCLEA** *Merr.*

For *Nauclea zeylanica* Hk. f. read:

**Neonauclea zeylanica** Merr. in Journ. Wash. Acad. Sc. V,

p. 540 (1915). *Nauclea zeylanica* Hk. f. in Fl. Brit. Ind. III, p. 26 (1882). *Bancalus zeylanicus* O. Ktze. Rev. Gen. p. 277 (1891).

*Page* 296.—For *Uncaria dasyoneura* Korth. read:

**U. Thwaitesii** Alst. in Ann. Perad. XI, p. 208 (1929). *U. dasyoneura* var. *Thwaitesii* Hk. f. in Fl. Brit. Ind. III, p. 31 (1882).
Nilambe; Tittaveraluwa Kotha.
Endemic.

*Page* 297.—For *Neurocalyx Wightii* Arn. read:

**N. calycinus** B. Rob. in Proc. Amer. Acad. XLV, p. 402 (1910). *Argostemma calycinum* R. Br. ex Benn, Pl. Jav. Rar. I, p. 97 (1838). *N. Wightii* Arn. in Ann. Nat. Hist. III, p. 22 (1839).

*Page* 302.—For *Fergusonia zeylanica* Hk. f. read:

**F. tetracocca** Baill. Hist. Pl. VII, p. 413 (1879). *F. zeylanica* Hk. f. Ic. Pl. XII, p. 23 (1876). *Borreria tetracocca* Thw. Enum. p. 442 (1864).

### 11a. RICHARDIA *Houst.* (non Kunth).
### (*Richardsonia* Kunth non Neck.).

Erect or prostrate annual (?) or perennial herbs; leaves opposite, sessile or shortly petiolate; stip. connate with the petioles to form a sheath; fls. in dense terminal heads, hermaphrodite or rarely polygamo-diœcious; calyx 4–8-lobed; corolla funnel-shaped, throat glabrous; cor.-lobes 3–6, valvate; stam. 3–6, inserted on the throat of the corolla; anth. exserted; ovary 3–4-celled, with one ovule in each cell, capsule circumscissile; endosperm horny.—Sp. 5–6; natives of Tropical America.

R. SCABRA Linn. Sp. Pl. I, p. 330 (1753); Hiern. in Fl. Trop. Afr. III, p. 242 (1877). *Richardsonia scabra* St. Hil. Pl. Us. t. 8 (1824). *R. brasiliensis* Hayne, Arzn. Gew. VIII, t. 21 (1805-43).

A prostrate, hispid herb; l. elliptic, shortly petioled, acute, about 1 in. long; cor.-segms. 6; capsule small.

A common weed in cultivated ground. Fl. May, etc.; white.
Native of Tropical America.

### 11b. MITRACARPUM *Zucc.*

Erect or prostrate herbs, usually perennial; stems 4-angled; leaves opposite, linear-lanceolate or ovate; stip. connate into a sheath; fls. in dense terminal or axillary heads, hermaphrodite; calyx 4–5-toothed, 2 teeth usually longer than the others; corolla funnel-shaped, with 4 valvate lobes; stam. 4, inserted on the throat of the corolla; anthers dorsifixed; disk fleshy; style 2-lobed; ovary 2 or rarely 3-celled, with 1 ovule in each cell; fruit a membranous, circumscissile capsule; endosperm fleshy.—Sp. 30; mostly natives of Tropical America.

M. VILLOSUM Ch. & Schl. in Linnæa III, p. 363 (1826); Petch in Ann. Perad. VII, p. 185 (1916) (*Mitracarpus*). *M. Torresianum* Ch. & Schl. l. c. p. 360; Petch l. c.

An erect, or rarely prostrate, annual (?) herb, up to 2½ ft. high; stem square, usually dark purple; leaves elliptic, about 1½ in. long, scabrously hairy; fls. in dense axillary heads; corolla-segm. 4; capsule small, pale brown.

A common weed in the low country. Fls. all the year; white. A native of Jamaica.

### 12. HEDYOTIS *Linn.*

Leaves linear; annuals; seeds numerous (Sect. *Oldenlandia*).
  Pedicels up to twice as long as the calyx:
    Flowers 2 or more together in terminal inflorescences:
      Calyx segments large, contiguous; fls. blue, subsessile . . . 1. H. CŒRULEA.
      Calyx segments small, distant; fls. white, pedicellate . . . . 2. H. PUBERULA.
    Flowers solitary, axillary, white, subsessile . . . . . . . 3. H. DIFFUSA.
  Pedicels more than twice as long as the calyx:
    Capsule as broad as long:
      Top of the capsule flat, not protruded; fls. in pairs . . . 4. H. CORYMBOSA.
      Top of the capsule rounded, protruded beyond the calyx; fls. solitary . . . . . . . 5. H. HERBACEA.
    Capsule nearly twice as long as broad 6. H. GRAMINIFOLIA.
Leaves broader:
  Capsule loculicidally dehiscent or more or less indehiscent (Sect. *Auricularia, Anotis* Auct. non DC.).
    Inflorescence terminal:
      Capsule flat, orbicular; perennials:
        Lateral veins of the leaves obvious; lvs. almost as broad as long . . . . . . 7. H. NUMMULARIA.
        Lateral veins of the leaves almost invisible; lvs. twice as long as broad; fleshy . . . . 8. H. NUMMULARIFORMIS.
      Capsule obovoid; annual . . . *H. pumila.*
    Inflorescences small, very dense, axillary cymes:
      Leaves lanceolate or ovate-lanceolate, ⅔–6 in. long:
        Capsule indehiscent; leaf nerves prominent:
          Prostrate herb; capsule globose; fls. pedicellate . . . 9. H. AURICULARIA.

Erect herbs; fls. sessile:
Capsule turbinate, membranous . . . . . 10. H. CYANESCENS.
Capsule globose, crustaceous . 11. H. INAMŒNA.
Capsule dehiscent at the top; leaf nerves indistinct; fls. sessile . 12. H. NITIDA.
Leaves orbicular or ovate, ½ in. long, trinerved from the base; capsule thin-walled . . . . . 13. H. TRINERVIA.
Capsule septicidally dehiscent (Sect. *Eu-hedyotis*).
Annual herbs:
Capsule quadrilocular . . . 14. H. QUADRILOCULARIS.
Capsule bilocular . . . . 15. H. BIFLORA.
Perennial shrubs or herbs; capsule bilocular:
Rosette plant; herbaceous . . 16. H. VERTICILLARIS.
Shrubs or erect perennials:
Capsule protruded beyond the calyx; cymes in terminal panicles:
Leaves coriaceous . . . 17. H. LAWSONIÆ.
Leaves membranaceous:
Lvs. subglabrous, 1–4 in. . 18. H. RICHARDIANIA.
Lvs. hairy, ½–¾ in. . . . 19. H. MONOSPERMA.
Capsule not protruded beyond the calyx:
Stipules sheathing:
Cymes dense, axillary; stipules pectinate . . . 20. H. NODULOSA.
Cymes usually terminal:
Leaves crowded at the tops of the branches; stems very thick . . . 21. H. GARDNERI.
Leaves under 1 in., broadly ovate, rounded at the apex . . 22. H. QUINQUENERVIA.
Leaves over 1 in. acuminate:
Calyx not united into a tube . . . 23. H. COPROSMOIDES.
Calyx united into a tube:
Stem hairy . . 24. H. TRICHONEURA.
Stem glabrous:
Leaves very coriaceous . . . 25. H. FLAVESCENS.
Leaves not coriaceous:
Lateral veins obscure . . 26. H. RHINOPHYLLA.
Lateral veins very prominent:

Fls. in globose crowded cymes 27. H. MARGINATA.
Fls. in paniculate cymes:
Fls. small . 28. H. LESSERTIANA.
Fls. large:
Calyx teeth broadly triangular . 29. H. CONFERTIFLORA.
Calyx teeth narrowly subulate . 30. H. DENDROIDES.
Stipules not sheathing:
Fls. in subsessile, axillary cymes:
Cymes crowded:
Leaves glabrous . . 31. H. MEMBRANACEA.
Leaves rough . . . 32. H. ASPERIFOLIA.
Cymes diffuse:
Corolla tube glabrous outside:
Fls. large; lvs. drying green . . . 33. H. CINEREO-VIRIDIS.
Fls. small; lvs. drying black . . . 34. H. FUMATA.
Corolla tube pubescent outside; fls. small; leaves drying green . 35. H. SUBVERTICILLATA.
Fls. in long stalked, usually terminal cymes or panicles:
Shrubs with lanceolate leaves:
Leaves pubescent beneath 36. H. MACRÆI.
Leaves glabrous beneath:
Lateral nerves visible below:
Leaves 3–4 in. long, drying yellowish; stip. entire, glanduliferous; infl. terminal . . . 37. H. FRUTICOSA.
Leaves $\frac{3}{4}$–$3\frac{1}{2}$ in. long, drying blackish; stip. pectinate; infl. axillary or terminal . . 38. H. OBSCURA.
Lateral nerves invisible

below; stip. entire;
infl. terminal:
Leaves $1\frac{3}{4}$–3 in. long, drying blackish; infl. a diffuse, dichasial cyme . . 39. H. CYMOSA.
Leaves $\frac{3}{4}$–1 in. long, drying yellowish; infl. sub-corymbose 40. H. EVENIA.
Herbs with linear leaves:
Capsule twice as long as broad; fls. on slender pedicels . . . *H. graminifolia.*
Capsule as broad as long; fls. on shorter pedicels . *H. puberula.*

For *Oldenlandia umbellata* Linn. read:

2. **Hedyotis puberula** R. Br. in Wall. Cat. no. 884 (1828). *Oldenlandia umbellata* Linn. Sp. Pl. p. 119 (1753). *Hedyotis umbellata* Lamk. Fl. I, p. 272 (1791) non Walt. *Oldenlandia puberula* G. Don Gen. Syst. III, p. 530 (1834).

*Page* 315.—For *Oldenlandia diffusa* Roxb. read:

3. **Hedyotis diffusa** Willd. Sp. Pl. I, p. 560 (1798). *Oldenlandia diffusa* Roxb. Hort. Beng. p. 11 (1814).

*Page* 314.—For *Oldenlandia corymbosa* Linn. read:

4. **Hedyotis corymbosa** Lamk. Tabl. Encycl. I, p. 272 (1791). *Oldenlandia corymbosa* Linn. Sp. Pl. p. 119 (1753).

*Page* 315.—For *Oldenlandia herbacea* Roxb. read:

5. **Hedyotis herbacea** Linn. Sp. Pl. p. 102 (1753). *Oldenlandia herbacea* Roxb. Hort. Beng. p. 11 (1814).

For *Oldenlandia stricta* Linn. read:

6. **Hedyotis graminifolia** Linn. f. Suppl. I, p. 119 (1781). *Oldenlandia stricta* Linn. Mant. II, p. 200 (1771). ?*Hedyotis stricta* Sm. in Rees. Cycl. XVIII, no. 21 (1811).

For *Anotis nummularia* Hk. f. read:

7. **Hedyotis nummularia** Arn. Pug. p. 23 (1836). *Anotis nummularia* Hk. f. in Fl. Brit. Ind. III, p. 75 (1880).

*Page* 319.—For *Anotis nummulariformis* Trim. read:

8. **Hedyotis nummulariformis** Arn. Pug. p. 23 (1836). *Anotis nummulariformis* Trim. Syst. Cat. p. 42 (1885).
Ritigala; above Condegalla Estate, Ramboda.

*Page* 315.—For *Oldenlandia crystallina* Roxb. read:

HEDYOTIS PUMILA Linn. f. Suppl. p. 119 (1781). *Oldenlandia crystallina* Roxb. Hort. Beng. p. 11 (1814).

*Page* 316.—For *Oldenlandia trinervia* Retz. read:

13. **Hedyotis trinervia** R. & S. Syst. III, p. 197 (1825–8). *Oldenlandia trinervia* Retz. Obs. Bot. IV, p. 23 (1786).

*Page* 318.—For *Anotis quadrangularis* Hk. f. read:

14. **Hedyotis quadrangularis** Thw. Enum. p. 144 (1859). *Anotis quadrangularis* Hk. f. in Fl. Brit. Ind. III, p. 74 (1880).

*Page* 317.—For *Oldenlandia biflora* Linn. read:

15. **Hedyotis biflora** Wall. Cat. no. 877 (1828). *Oldenlandia biflora* Linn. Sp. Pl. p. 119 (1753).

16. **Hedyotis Richardiana** Arn. Pug. p. 22 (1836). *Anotis Richardiana* Hk. f. in Fl. Brit. Ind. III, p. 75 (1880). *Hedyotis monosperma* Thw. Enum. p. 142 (1859) pp. non W. & A. *Knoxia mollis* Trim. Fl. Ceyl. II, p. 340 (1894) pp. non W. & A.

An erect, perennial herb; stems about 1 ft. high, almost glabrous; leaves 1–4 in., ovate-elliptic, abruptly cuneate at base, acuminate, subglabrous, nerves prominent; apex acute; petiole $\frac{1}{4}$–$\frac{1}{2}$ in. long; stip. large, laciniate; fls. shortly stalked, in diffuse, terminal cymes; calyx lanceolate; corolla-tube narrow; stamens exserted; capsule obovoid, compressed, with a convex tip exceeding the persistent calyx-segments, glabrous.

Montane zone; rare? Maskeliya; Dunitibu-oya. Fl. Feb., May.
Endemic.

*Page* 319.—For *Anotis Richardiana* Hk. f. read:

17. **Hedyotis monosperma** W. & A. Prodr. p. 410 (March? 1834). *H. mysurensis* Wall. Cat. no. 882 (1828). *Oldenlandia mysurensis* G. Don Gen. Syst. III, p. 531 (July? 1834). *Anotis monosperma* B. & H. Gen. Pl. II, p. 60 (1876). *A. Richardiana* Trim. Fl. Ceyl. II, p. 319 (1894) non Hk. f.
Also in S. India.

24. **Hedyotis trichoneura** sp. nov.* *H. Lessertiana* var. *pilosa* Thw. Enum. p. 141 (1859).

Small diffuse shrub; stem cylindrical, pilose; leaves $1\frac{1}{2}$–$3\frac{1}{2}$ in. long, $\frac{1}{3}$–$\frac{2}{3}$ in. broad, narrowly lanceolate, glabrous above, strongly plicate, hairy on the nerves beneath; petiole $\frac{1}{4}$ in. long; stip. connate, sheathing, loose, hairy, truncate, with several teeth; cymes terminal, panicled; pedicels rather longer than the calyx; calyx-limb campanulate, segments obsolete; corolla hairy within.

Montane zone; 3000–5000 ft., rather rare. Naminakula; Haputale. Fl. Sept.
Endemic.

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* Affinis *H. Lessertianæ*, sed foliis longioribus pilosis differt.—Typus: Haputale, *Trimen.*

25. **Hedyotis flavescens** Thw. Enum. p. 141 (1859). *H. Lessertiana* var. *flavescens* Thw. l. c. p. 419 (1864).

Erect shrub, about 1 ft. high; stem stout, cylindrical, glabrous; leaves 1½–3½ in. long, ¾–½ in. broad, ovate-lanceolate, glabrous, not plicate, very coriaceous; petiole up to ½ in. long stip. connate, sheathing, loose, deciduous, glabrous, truncate, with numerous deciduous teeth; cymes terminal, very dense; calyx with large ⅔ connate segments; corolla hairy within; capsule over ¼ in., obovoid, dehiscent.

Montane zone; rather rare? Adam's Peak; Galagama; Maskeliya. Fl. March.

Endemic.

27. **Hedyotis marginata** Thw. ex Hk. f. in Fl. Brit. Ind. III, p. 53 (1882). *H. Lessertiana* var. *marginata* Trim. Fl. Ceyl. II, p. 309 (1894).

Erect shrub; stem cylindrical, glabrous; leaves 3–6 in. long, 1–2 in. broad, ovate-lanceolate, long acuminate, subglabrous; lateral veins conspicuous, very oblique; petiole short, connate with the stipules; stip. connate, sheathing, up to 1½ in. long, truncate, with a few hairy, deciduous, teeth; cymes terminal, capitate; calyx campanulate; calyx segments long-lanceolate, persistent.

Lower montane zone; rare. Kotiya Kande. Fl. Oct.

Endemic.

29. **Hedyotis confertiflora** sp. nov.* *H. Lessertiana* var. *confertiflora* Thw. Enum. p. 141 (1859).

Shrub; stem cylindrical, glabrous; leaves 2–3½ in. long, 1–1½ in. broad, ovate-elliptic, shortly acuminate, glabrous, plicate; lateral veins conspicuous, very oblique; petiole ¼–½ in. long, free from the stipules; stip. connate, sheathing, about ⅔ in. long, truncate with a few deciduous teeth; cymes terminal, dense; calyx campanulate; calyx-segments broadly triangular, persistent.

Upper montane zone; common. Nuvara Eliya; Adam's Peak; Horton Plains; Ambagamuva; Naminakuli. Fl. Apr., Dec.

Endemic.

30. **Hedyotis dendroides** sp. nov.† *H. Lessertiana* var. *major*. Thw. Enum. p. 141 (1859).

Erect, sparingly branched shrub, about 13 ft. high; stem about 2 in. in diam., at base; leaves 6–10 in. long, 1½–4 in. broad, lanceolate-elliptic, acuminate, glabrous; lateral veins conspicuous, very oblique; petiole 1–1½ in. long, free from

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* Affinis *H. Lessertianæ,* sed floribus majoribus foliisque latioribus differt.—Typus: Nuvara Eliya *Gardner* C.P. 103

† Affinis *H. marginatæ,* sed floribus paniculatis differt.—Typus: Ramboda, *Alston* 442.

the stipules; stip. connate, sheathing, about 1–2 in. long, truncate, rarely with a few deciduous teeth; cymes terminal, diffuse; calyx campanulate, truncate, with linear-subulate teeth.

Upper montane zone; common? Adam's Peak; Ramboda; between Nuvara Eliya and Sita Eliya. Fl. Apr.; white.
Endemic.

*Page* 307.—For *H. Thwaitesii* Hk. f. read:

32. **H. asperifolia** nom. nov. *H. Thwaitesii* Hk. f. in Fl. Brit. Ind. III, p. 54 (1880) non Hance.
Ellaboda Kande.

34. **Hedyotis fumata** sp. nov.* *H. cinero-viridis* var. *fumata* Thw. ex Trim. Syst. Cat. p. 42 (1885).

Shrub; branches slender, glabrous; leaves ovate-lanceolate, about 2½ in. long, ⅔ in. broad, drying black, cuneate at base; apex gradually acuminate; lateral nerves about 4 on either side, oblique; stipules ovate-subulate, densely pilose, caducous; fls. in axillary cymes; calyx-lobes subulate, glabrous; corolla-tube glabrous outside.

Montane zone; rare? Adam's Peak. Fl. March.
Endemic.

35. **Hedyotis subverticillata** sp. nov.† *Hedyotis cinereo-viridis* Thw. var. *subverticillata* Trim. Syst. Cat. p. 42 (1885).

Shrub with slender glabrous branches; leaves ovate-lanceolate, usually about 4½ in. long, 1¼ in. broad, drying green, cuneate at base; apex long acuminate; lateral nerves about 7 on either side; stipules subulate, puberulous, caducous; fls. in sessile, axillary cymes, heterostylous; calyx-lobes subtriangular, glabrous; corolla-tube pubescent outside.

Moist region; rare. Ambagamuva; Nillove Kande. Fl. March.
Endemic.

*Page* 305.—

39. **H. cymosa** Thw.
Gartmore Estate, Maskeliya.

### 15. OPHIORRHIZA *Linn.*

Erect glabrous plants:
  Bracts absent or early caducous; cymes usually spreading; leaves membranaceous:
    Fls. 0·15 in. diam.; leaf lamina over 4 in. long; herb; bracteoles wanting . 1. O. Mungos.

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* Species *H. inamœnæ* similis, sed stipulis persistentibus differt.—Typus: Adam's Peak, *Alston* 975.

† Affinis *H. cinereo-viridis*, sed floribus minoribus differt.—Typus: Nillove Kande, *Trimen*.

Fls. 0·3 in. diam.; shrubby; bracteoles small, deciduous:
Corolla tube 0·2 in. long; fls. greenish-white . . . . . . . . 2. O. ANGUSTIFOLIA.
Corolla tube 0·4 in. long; fls. pinkish-white . . . . . . . . 3. O. NEMOROSA.
Bracts large, persistent; cymes subcapitate; leaves coriaceous . . . . . 4. O. PECTINATA.
Erect pubescent plant . . . . . 5. O. PALLIDA.
Procumbent:
Bracts persistent in fruit; infl. many-fld.; lvs. usually hairy above . . . . 6. O. GLECHOMIFOLIA.
Bracts deciduous; infl. few-fld.; lvs. glabrous above . . . . . . 7. O. RADICANS.

*Page* 320.—

1. **O. Mungos** Linn.

Mr. T. Petch informs me that the Dutch, finding that the King of Kandy would not allow pilgrims from their part of the country to visit Adam's Peak, named a small hill near Matara " Adam's Peak " and that is the place referred to by Hermann.

*Page* 321.—For *O. Harrisiana* Heyne read:

2. **O. angustifolia** Thw. Enum. p. 140 (1859). *O. Mungos* var. *angustifolia* Hk. f. in Fl. Brit. Ind. III, p. 77 (1882).

Leaves narrow with many veins.

Adam's Peak; Niter Cave district.
Var. ?**argentea** (Wall.). *O. Harrisiana* var. *argentea* Hk. f. in Fl. Brit. Ind. III, p. 78 (1882). *O. argentea* Wall. Cat. no. 6229 (1830).

Leaves broader; veins fewer.

Matale East; Ella Pass, Uva.
Var. ?**decumbens** (Gardn.). *O. decumbens* Gardn. ex Thw. Enum. p. 419 (1864) pp. *O. Harrisiana* Trim. Fl. Ceyl. II, p. 321 (1894). *O. Harrisiana* var. *decumbens* Hk. f. in Fl. Brit. Ind. III, p. 78 (1882).

Leaves broader; veins numerous.

Hakgala.
Endemic?
Gamble, Fl. Madr. p. 607 (1921), restricts *O. Harrisiana* Heyne to the S. Indian plant.

For *O. Mungos* var. *nemorosa* Hk. f. read:

3. **O. nemorosa** Thw. Enum. p. 139 (1859). *O. Mungos* var. *nemorosa* Hk. f. in Fl. Brit. Ind. III, p. 77 (1882).

As *O. angustifolia* Thw. but leaves larger; fls. much larger, pinkish-white.

Endemic.
More material is required to be certain that this is distinct from *O. angustifolia* Thw.

**O. radicans** Gardn.
Tittaweralu Kotha.

16. **MUSSÆNDA** *Linn.*

Leaves villous; calyx-segs. long . . . . 1. M. FRONDOSA.
Leaves glabrous; calyx-segs. short . . . 2. M. GLABRATA.

2. **M. glabrata** Hutch. ex Gamble Fl. Madr. p. 610 (1921). ?*M. corymbosa* Roxb. Fl. Ind. I, p. 556 (1820).

As *M. frondosa* but glabrous; leaves 2–5 in. long, tapering at base; buds acute, not 5-angled; enlarged calyx-segments smaller; calyx minute, glabrous; fruit glabrous.

Moist low country; common? Kottuva; Delgoda. Fl. March, July; bright orange, enlarged calyx segment white.
Also in S. India.

*Page* 324.—

**Acranthera zeylanica** Arn.
Tittaweralu Kotha.

*Page* 326.—

2. **Urophyllum zeylanicum** Thw.
Also in S. India.

*Page* 327.—For *Webera* Schreb. read:

21. **TARENNA** *Gaertn.*

For *Webera corymbosa* Willd. read:

Cal. deciduous; fruit 0·2 in. diam.; fls. 0·4 in. diam., white . . . . . . . . . 1. T. ASIATICA.
Cal. persistent; fruit 0·3 in. diam.; fls. 0·5 in. diam., yellow . . . . . . . . . 2. T. FLAVA.

1. **T. asiatica** O. Ktze. Rev. Gen. p. 278 (1891). *Rondeletia asiatica* Linn. Sp. Pl. p. 182 (1753). *Webera corymbosa* Willd. Sp. Pl. p. 1224 (1797). *Chomelia asiatica* O. Ktze. l. c.
Flowers white, sweet-scented.
Lower country, in the dry region; common.

2. **T. flava** sp. nov.* *Webera cerifera* Moon. Cat. p. 19 (1824) nomen. *W. corymbosa* var. *montana* Thw. Enum. p. 158 (1859).

Leaves 4–6 in. long, glabrous; buds and stipules exuding a waxy secretion; fls. pedicellate, 0·5 in. diam., yellow; calyx with a few, small, scattered hairs; cor. hairy at mouth; fruit a hard berry 0·3 in. diam., crowned by the persistent calyx segments.

Moist region, especially in the montane zone. Nuvara Eliya; Maturata; Hakgala; between Veva and Delgoda. Fl. Feb., March, May, Nov.
Also in S. India.

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* Affinis *T. asiaticæ,* sed calycis lobis persistentibus differt.—Typus: Nuvara Eliya, *Gardner* 337.

*Page* 331.—

4. **Randia Gardneri** Hk. f.
Also in S. India.

*Page* 332.—

1. **Gardenia latifolia** Ait. **Kumbay,** *T.* (Gamble).

*Page* 333.—

2. **G. coronaria** Ham. **Kollala- Kada,** *S.*

For *Diplospora* DC. read:

27. **TRICALYSIA** *A. Rich.*

For *Diplospora Dalzellii* Hk. f. read:

1. **Tricalysia Dalzellii** (Thw.). *Dicospermum Dalzellii* Thw. Enum. p. 158 (1889). *Diplospora Dalzellii* Hk. f. in Fl. Brit. Ind. III, p. 123 (1880).

For *Diplospora erythrospora* Bedd. read:

2. **Tricalysia erythrospora** (Thw.). *Dicospermum erythrosporum* Thw. Enum. p. 158 (1859). *Diplospora erythrospora* Bedd. For. Man. CXXXIV, 3 (1873?).

*Page* 338.—For *Timonius* DC. read:

30. **NELITRIS** *Gaertn.*

For *Timonius Jambosella* Thw. read:

**Nelitris Jambosella** Gaertn. Fruct. I, p. 134 (1788); Val. in Bull. Dep. Agric. Ind. Ned. XXVI, p. 5 (1909) sub. *Bobea. Timonius Jambosella* Thw. Enum. p. 153 (1859).
Endemic.
Valeton has referred this to *Bobea* Gaud. and though *Nelitris* Gaertn. in one of "nomina rijicienda" of the International Rules I think that it should be adopted in preference to *Bobea* Gaud.

*Page* 341.—

3. **Knoxia zeylanica** Linn.
Also in S. India.

For *Canthium didymum* Gaertn. read:

1. **C. dicoccum** Merr. in Phil. Journ. Sc. XXV, p. 8 (1928). *Psydrax dicoccos* Gaertn. Fruct. I, p. 125 (1788). *Caranda pedunculata* Gaertn. l. c. II, p. 17 (1791). *Canthium didymum* Gaertn. l. c. III, p. 94 (1805). *Plectronia didyma* Elm. Leafl. Phil. Bot. I, p. 28 (1906). **Porova-mara,** *S.* (F. Lewis), **Iram-barattham,** *T.* (Gamble).
Many authors have adopted the name *Plectronia* Linn. for this genus, but Merrill (Phil. Journ. Sc. XXXV, p. 7) has shown the name *Canthium* Lamk. to be correct.
Dambulla. Fl. Nov.
Endemic.

4. **Canthium Rheedii** DC.
*C. campanulatum* Thw. appears to be indistinguishable from this species.

*Page* 346.—For *C. parviflorum* Lam. read:

7. **C. coromandelicum** (Burm. f.). *Gmelina coromandelica* Burm. f. Fl. Ind. p. 132 (1768) pp. excl. syn. Sloane. *Canthium parviflorum* Lamk. Encycl. I, p. 602 (1783). *Webera tetrandra* Willd. Sp. Pl. I, p. 1224 (1797) excl. syn. Rheede. *Plectronia parviflora* Bedd. For. Man. p. 134 (1874) nec Harv. & Sond. nec Kurz.

2. **Ixora Thwaitesii** Hk. f.
Also in S. India.

*Page* 350.—For *Pavetta hispidula* W. & A. read:

Leaves pubescent beneath, blackish when dry . 2. P. HISPIDULA.
Leaves glabrous beneath, greenish when dry . . 2a. P. ZEYLANICA.

2a. **P. zeylanica** Gamble in Fl. Madr. p. 633 (1921). *P. hispidulla* var. *zeylanica* Hk. f. in Fl. Brit. Ind. III, p. 151 (1882).

Leaves usually somewhat larger and broader than in *P. hispidula*, glabrous, drying greenish; petals much larger and more sharply pointed than in *P. hispidula*.

Apparently the commoner plant. Hantane; Kukul Korale; Morankande Estate, Galagedara.
Also in South India.

*Page* 354.—

2. **Morinda citrifolia** Linn. **Nuna,** T. (Gamble).

*Page* 355.—For *Prismatomeris albidiflora* Thw. read:

**P. tetrandra** K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 4, p. 138 (1891). *Coffea tetrandra* Roxb. Fl. Ind. I, p. 538 (1820).

*Page* 357.—

1. **Psychotria stenophylla** Hk. f.
Karavita Kande; Ellaboda Kande.

*Page* 358.—For *P. Thwaitesii* Hk. f. read:

4. **P. nigra** (Gaertn.). *Grumilea nigra* Gaertn. Fruct. I, p. 135 t. 28 (1788). *Psychotria Thwaitesii* Hk. f. in Fl. Brit. Ind. III, p. 162 (1880).

For *P. Wightiana* Hk. f. read:

5. **P. dubia** (Wight). *Lasianthus ?dubius* Wight in Calc. Journ. Nat. Hist. VI, p. 516 (1846). *P. Wightiana* Hk. f. l. c. p. 167.

*Page* 362.—For *Chasalia curviflora* Thw. read:

**C. ambigua** (W. & A.). *Psychotria ambigua* W. & A. Prodr. p. 433 (1834). *Chasalia curviflora* Thw. Enum. p. 150 (1859).

*Page* 363.—For *Geophila reniformis* D. Don read:

**G. herbacea** O. Ktze. Rev. Gen. p. 300 (1891). *Psychotia herbacea* Jacq. Enum. Pl. Carib. p. 16 (1700). *Cephælis reniformis* H. B. K. Nov. Gen. & Sp. III, p. 377 (1818). *Geocardia herbacea* Standl. in Contr. U.S.N.H. XVII, p. 445 (1914).

*Page* 369.—For *Saprosma zeylanica* Bedd. read:

3. **S. fœtens** K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 4, p. 122 (1891). *Lasianthus fœtens* Wight, in Calc. Journ. Nat. Hist. VI, p. 517 (1846). *Dysodidendron zeylanicum* Gardn. in Calc. Journ. Nat. Hist. VII, p. 2 (1847). *Serissa zeylanica* Thw. Enum. p. 150 (1859). *Saprosma zeylanicum* Bedd. For. Man. p. 136 (1873?).

### 45. **SPERMACOCE** *Linn.*

K. Schumann, in Engl. Bot. Jahrb. X, pp. 304 (1889), has substituted *Borreria* G. F. W. Mey, for this, on the grounds that *S. tenuior* Linn. is unrecognisable and that *S. tenuior* Gaertn. is therefore the type. If *S. tenuior* Linn. is unrecognisable, *S. verticillata* Linn. should be the type. *Borreria* has unfortunately been added to the list of *nomina conservanda.*

Schumann, p. 306, states " Linne's *Sp. tenuior* grundet 1. auf. eine unkenntliche Abbildung Plunkenet's (Almag. p. 33 t. 136 f. 4, which was collected in India by Dubois). 2. auf eine nicht sicher zu bestimmende Abbildung Dillenius', die fast allgemein für eine nordamerikanishe Art angesehen wird. (This is perhaps *S. glabra* Michx.) 3. auf eine unsichere Diagnose Löffling's für die moglicher Weise ein Belag vorliegt, 4. auf zwei ganz verschiedene Pflanzen in Linne's Herbar " (*S. tenella* H. B. K., *S. hyssopifolia* H. B. K. and *S. spinosa* Jacq.).

# PART III

*Page* 3.—

## LXX.—COMPOSITÆ.

Heads unisexual . . . . . . . 20. XANTHIUM.
Heads bisexual :
  Heads discoid (not rayed); fl. all tubular (see also 25 and 26) :
    Involucral bracts connate into a pseudo-calyx . . . . . . . 18b. *Lagascea.*
    Involucral bracts free :
      Fl. all bisexual :
        Anther bases cleft or tailed :
          Style arms subulate; fls. purple or white; achenes 10-ribbed (*Vernonieæ*) :
            Heads many-flowered; pappus long of slender hairs . . 1. VERNONIA.
            Heads 4-flowered; fls. crowded into dense masses; pappus chaffy . . . . . 2. ELEPHANTOPUS.
          Style arms truncate; pappus of long hairs . . . . . 33a. *Carduus.*
          Style arms acute; achenes 2–3-angled; pappus small . . . 24a. *Eleutheranthera.*
        Anther bases not cleft or tailed :
          Style arms clavate; achenes 5-ribbed (*Eupatorieæ*) :
            Anther-tips truncate . . . 3. ADENOSTEMMA.
            Anther-tips appendiculate :
              Pappus paleaceous; erect plants :
                Involucral bracts 2–3-seriate; capitula many-flowered . 3a. *Ageratum.*
                Involucral bracts subuniseriate; capitula 5-flowered . 3b. *Stevia.*
              Pappus of slender hairs; climbing plants . . . . 3c. *Mikania.*
          Style arms long, tapering, hairy . 30. GYNURA.
          Style arms truncate; tipped with a conical tuft of hairs :
            Fls. violet . . . . . 31. EMILIA.
            Fls. pale yellow . . . . 32. NOTONIA.
      Outer or lower row of flowers female :
        Anther cells not tailed or sagittate at base :
          Pappus of long hairs :
            Style arms flattened . . . 10. CONYZA.
            Style arms truncate . . . 29a. *Erechtites.*
          Pappus none, or a few bristles, or a ring :

Receptacle convex or elongated :
Pappus of 2 or 3 bristles . . 4. DICHROCEPHALA.
Pappus a short ciliate tube . . 5. GRANGEA.
Pappus wanting . . . . 28. CENTIPEDA.
Receptacle flat; pappus wanting :
Involucral bracts 1–2-seriate . 27e. *Cotula.*
Involucral bracts multi-seriate . 29. ARTEMISIA.
Anther cells tailed or sagittate at base :
Pappus of hairs :
Involucral bracts without appendages :
Anth. cells tailed . . . 11. BLUMEA.
Anth. cells sagittate . . . 12. LAGGERA.
Inv. bracts scarious, with appendages :
Receptacles smooth :
Styles notched or undivided . 16. ANAPHALIS.
Styles divided . . . . 16a. *Gnaphalium.*
Receptacles bristly . . . 17. HELICHRYSUM.
Pappus none, or of 2 or 3 bristles :
Heads few, distinct :
Heads erect . . . . 13. EPALTES.
Heads drooping . . . . 18a. *Carpesium.*
Heads numerous, combined into compound heads :
Herbs . . . . . . 14. SPHÆRANTHUS.
Climbing shrub . . . . 15. BELPHARISPERMUM.
Heads rayed :
Disk fl. tubular; ray-fl. ligulate :
Pappus of hairs :
Style arms flattened; anth. cells obtuse :
Heads small; disk-fl. numerous . 8. ERIGERON.
Heads very small; disk-fl. 1–3 . 9. MICROGLOSSA.
Style arms truncate; anth. cells either tailed or obtuse :
Inv. bracts in several rows . . 18. VICOA.
Inv. bracts in one row . . . 33. SENECIO.
Pappus none or of scales or bristles :
Receptacles without bracteoles :
Leaves alt.; stem leafy :
Rays white or purple . . . 6. MYRIACTIS.
Rays yellow . . . . 27d. *Chrysanthemum.*
Leaves radical; heads on leafless scapes . . . . . . 7. LAGENOPHORA.
Receptacle with bracteoles :
Pappus wanting :
Ray-fl. few :
Achenes smooth :
Inv. bracts very widespreading . . . . 21. SIEGESBECKIA.
Inv. bracts not glandular, outer ones leafy :
Leaves compound . . 19. MOONIA.

Leaves simple . . . 18c. *Melampodium.*
Inv. bracts not glandular, outer not leafy . . 25. SPILANTHES.
Achenes spinose . . . 18d. *Acanthospermum.*
Ray-fl. numerous, white . . 22. ECLIPTA.
Pappus present:
Pappus of a few scales:
Ray-fl. white; heads small:
Leaves alternate or sub-opposite, harshly hairy . 23. BLAINVILLEA.
Leaves opposite, subglabrous . . . . 27a. *Galinsoga.*
Ray-fl. yellow:
Leaves simple:
Rays long, bright yellow . 24. WEDELIA.
Rays short, cream-coloured 27b. *Tridax.*
Leaves compound . . 27c. *Tagetes.*
Pappus of a few bristles:
Leaves compound:
Achenes beaked . . . 25b. *Cosmos.*
Achenes not beaked:
Style arms with short appendages . . . 26. BIDENS.
Style arms with long appendages . . . 27. GLOSSOGYNE.
Leaves simple or lobed:
Leaves lobed; fls. large . 24b. *Tithonia.*
Leaves simple, fls. very small 25a. *Synedrella.*
Fls. all ligulate; plants usually with latex:
Achenes beaked:
Pappus feathery . . . . . 34a. *Hypochæris.*
Pappus simple:
Heads solitary . . . . . 34b. *Taraxacum.*
Heads in clusters . . . . 35. LACTUCA.
Achenes not beaked:
Achenes compressed . . . . 35a. *Sonchus.*
Achenes sub-terete:
Achene tapering . . . . 34. CREPIS.
Achene truncate . . . . 36. LAUNÆA.

*Page 7.*—For *Vernonia cinerea* Lass. read:

Herb; thinly pubescent; fls. reddish-purple . . 4. V. CINEREA.
Undershrub; densely tomentose; fls. purplish-blue . 4a. V. ALBICANS.

4a. **V. albicans** DC. in Wight Contrib. p. 6 (1834); Wight Ic. t. 1076 (1843) excl. achenes; Gamble Fl. Madr. p. 676 (1921).

Rather shrubby; stem tomentose; leaves elliptic, rather thick, crenate-dentate, densely white-tomentose on the under surface; outer pappus hairs shorter. Otherwise similar to *V. cinerea.*

In dry places; rather rare? on patanas, Fort Macdonald Valley; rocky place, Bintenna. Fls. March, Apr.; purplish-blue.
Also in S. India.

*Page* 13.—For *Adenostemma viscosa* Forst. read:

**A. Lavenia** O. Ktze. Rev. Gen. I, p. 304 (1891). *Verbesina Lavenia* Linn. Sp. Pl. p. 902 (1753). *Adenostemma viscosum* Forst. Nov. Gen. p. 45 (1776). **Laveniya,** *S.*

13a. AGERATUM *Linn.*

Annual; l. opposite, simple; heads small; involucral bracts 2–3-seriate, linear; receptacle flat, naked; fl. minute, numerous, all tubular, bisexual, 5-lobed; anthers appendaged, obtuse at base; style arms elongate, obtuse; pappus of 5 broad scales.—Sp. 16.

A. CONYZOIDES Linn. Sp. Pl. p. 839 (1753); Moon. Cat. p. 59; Hk. Exot. Fl. t. 15 (1823); Hk. f. in Fl. Brit. Ind. III, p. 243 (1882). **Hulan-tala,** *S.* **Pum-pullu,** *T.*

Herb, 6–24 in. high, sparingly branched, hairy; l. simple, ovate, creneate-serrate, $\frac{3}{4}$–$2\frac{1}{2}$ in. long, $\frac{1}{2}$–2 in. broad; petioles $\frac{1}{4}$–$1\frac{1}{2}$ in. long; heads $\frac{1}{4}$ in.; achenes black.

Common in waste places everywhere. Fl. all the year; pale blue or white.

Native of Tropical America.

*Page* 16.—For *Lagenophora Billardieri* Cass. read:

**L. stipitata** (Labill.). *Bellis stipitata* Labill. Nov. Holl. Pl. II, p. 55 t. 105 (1806). *Lagenophora Billardieri* Cass. in Dict. Sc. Nat. XXV, p. 111 (1820?).

3b. STEVIA *Cav.*

A species of this genus has occurred as an escape at Hakgala.

3c. MIKANIA *Willd.*

Herbs or shrubs, usually twining; leaves opposite; heads corymbose or racemose; involucre oblong; involucral bracts in 1 series, 4–5, imbricate; receptacle small, naked; florets regular, usually 4, all tubular, 5-toothed, hermaphrodite; anther-bases obtuse, entire, apices appendaged; style-arms elongate, acute; achenes sharply 5-angled; pappus of scabrous hairs in 1–2 series, usually united into a ring at the base.—Sp. 60; Tropical America.

M. SCANDENS Willd. Sp. Pl. III, p. 1743 (1804). *Eupatorium scandens* Linn. Sp. Pl. p. 836 (1753). *E. cordatum* Burm. f. Fl. Ind. p. 176 (1768).

A twining herb; stems glabrous, up to 20 ft. long; leaves simple, ovate-deltoid, hastate at base, acuminate at apex; lamina 2–3 in. long, usually glabrous; petiole 1–2 in. long; heads shortly-stalked, in terminal and axillary, pedunculate, corymbose panicles; involucral bracts green, narrowly

oblong, acute; achenes sub-glabrous, dark brown; pappus reddish.

Very common by roadsides and in waste places in the low country in both wet and dry regions. Fl. Oct.–Nov.; white.

A native of Tropical America; now found throughout the Tropics.

### 8. **ERIGERON** *Linn.*

Pappus white:
  Heads under $\frac{1}{4}$ in.; leaves cuneate at base, irregularly serrate . . . . . . . 1. *E. sumatrensis.*
  Heads over $\frac{1}{4}$ in.; leaves auricled at base, closely serrate . . . . . . . 2. E. ASTEROIDES.
Pappus rufous; leaves linear, cuneate at base . 3. *E. crispus.*

1. E. SUMATRENSIS Retz. Obs. V, p. 28 (1789).

Annual 2–3 ft.; stem much branched in the upper part, hairy, green, furrowed; l. lanceolate, cuneate at base, irregularly serrate or entire, densely silky-hairy on both surfaces; heads under $\frac{1}{4}$ in., numerous, shortly peduncled; involucral bracts linear, pubescent, with membranous margins, not viscous; ray-fls. very narrowly filiform, scarcely exceeding the bracts; pappus brownish-white.

Common in waste places. Fl. Sep., Nov., Apr.; rays pale blue, disk pale yellow.

Native of Sumatra.

For *E. linifolius* Willd. read:

3. E. CRISPUS Pourr. in Mém. Acad. Toul. III, p. 318 (1788). *E. linifolius* Willd. Sp. Pl. III, p. 1955 (1804); Hk. f. in Fl. Brit. Ind. III, p. 254 (1882). *Coryza ambiqua* DC. Fl. Fr. Suppl. p. 468 (1815). *Tessenia linifolia* Bub. Fl. Pyr. p. 266 (1897). *Conyzella linifolia* Greene Fl. Francisc. p. 386 (1891). *Conyza angustifolia* Thw. ex Hk. f. l. c. (1882), C.P. 3928 non Ham.

Annual, 1–2 ft., stem much branched, pubescent or tomentose, l. linear, usually entire more rarely linear-lanceolate and serrate, densely silky-hairy on both surfaces; heads $\frac{3}{8}$ in., on long peduncles; involucral bracts linear, pubescent; ray-fls. multiseriate, narrowly filiform; achenes small, narrowly oblong, compressed, glabrous; pappus rufous.

Upper montane zone, local. Hakgala. Fl. Jan., Mar., Sept.

Native of the Mediterranean region.

*Page* 19.—For *Blumea amplectens* DC. read:

1. **B. obliqua** (Linn.). *Erigeron obliquum* Linn. Mant. p. 573 (1767). *Blumea amplectens* DC. in Wight Contrib. p. 13 (1834); Petch in Ann. Perad. VI, p. 72 (1916). **Nara-karamba,** *T.*

Achene purple-brown, not ridged, covered with white adpressed hairs and with a crown of minute hairs at the apex (Petch).

Dry region, apparently rare? Matalan (H. Nevill).

2. **B. bifoliata** DC.

I have apparently an allied species with mauve flowers, from Mullaitivu (Alston 644). The common yellow flowered species appears to be this rather than *B. obliqua.*

The original description (Linnæus Sp. Pl. p. 862, under *Conyza*) does not state the colour of the flowers, and the statement that they were yellow originates with Roxburgh (Fl. Ind. III, p. 431 under *Conyza*), he is followed by De Candolle (in Wight Contrib. p. 14) and all subsequent authors.

Clarke (Comp. Ind. p. 72) seems to have had this purple-flowered species sent to him and remarks " Flores semper flavidi : sed phyllariis haud raro purpurascentibus capitula lilacina dicuntur."

Rheede Hort. Mal. X, t. 187, a yellow-flowered plant, appears also to belong here.

Linnæus (Mant. p. 573 sub *Conyza*) and all subsequent authors state that *B. obliqua* has yellow flowers, except De Candolle, who in his description of *B. amplectens* states " Fl. fœm. pluriseriales stigm. exsertis rubris."

There seem therefore to be 3 species :

1. With yellow flowers and serrate leaves (*B. bifoliata* DC.).
2. With yellow flowers and dentate leaves (*B. obliqua, B. amplectens* Auct.).
3. With purple flowers and serrate leaves (perhaps *B. amplectens* DC., *B. bifoliata* Auct.).

3. **B. mollis** Merr. in Phil. Journ. Sc. Bot. V, p. 395 (1910). *Erigeron molle* Don Prodr. p. 172 (1825). *Blumea Wightiana* Hk. f. in Fl. Brit. Ind. III, (1882) non DC. *B. lacera* Trim. Fl. Ceyl. III, p. 19 (1895) non DC.

*Page* 20.—

5. **B. flexuosa** Trim. ; ?Clarke.
Karavita Kande.

*Page* 22.—

9. **B. spectabilis** DC.
Dotalugala Kande, Eratne.

*Page* 23.—

12. **LAGGERA** *Sch.-Bip.*

Stem 4-winged :
Wings subentire . . . . . . 1. L. ALATA.
Wings deeply lobed . . . . . . 1a. L. PTERODONTA.
Stem cylindrical . . . . . . . 2. L. AURITA.

1a. **L. pterodonta** Benth. in Gen. Pl. II, p. 290 (1876); Hk. f. in Fl. Brit. Ind. III, p. 271 (1882). *Blumea pterodonta* DC. in Wight, Contrib. p. 16 (1834).

An erect herb; stem 4 ft. high, minutely glandular-puberulous, widely 4-winged throughout, much-branched; leaves about 3½ in. long, sessile, auriculate at base, regularly serrate, more punerulous than *L. alata;* heads numerous,

axillary or terminal, solitary, nodding, on rather longer pedicels than *L. alata;* bracts linear, acuminate; achenes indistinctly 10-ribbed; pappus white.

Montane zone, on patanas, apparently rare, Ramboda Pass. Fls. Feb.; pale mauve.
Also in Tropical Asia and Africa.

*Page* 24.—

13. **EPALTES** *Cass.*

Bracts longer than fls. . . . . . 1. E. DIVARICATA.
Bracts shorter than fls. . . . . . . . 2. E. PYGMÆA.

2. **E. pygmæa** DC. Prodr. V, p. 461 (1836); Hk. f. in Fl. Brit. Ind. III, p. 274 (1882).

Very like *E. divaricata*, but heads smaller; involucral bracts much shorter than the flowers.

Arid region; not uncommon; Illupaikaduvai, Mannar district; Vakaneri, E.P.; Mullaitivu. Fl. Feb.–Apr.; mauve.
Also in S. India.
The achenes are described as " much smaller, ellipsoid, smooth and slightly angled, black " but I do not find them different from those of *E. divaricata.*

*Page* 25.—

14. **SPHÆRANTHUS** *Linn.*

Dr. Robyns (Revision of the genus *Sphæranthus,* in Kew Bull. 1924, p. 187) has a new Ceylon species which he separates from *S. amaranthoides* as follows:

*Page* 28.—

Heads reddish-brown, almost cylindrical, up to 2·5 cm. long; subtending bracts mucronate; adaxial bracts truncate, with small teeth at the upper end; hermaphrodite flowers 2, corolla small, ovary round, with upper empty parts quite glabrous; female flowers 4 stipitate; ovary glabrous (said to be hairy in text p. 187) . . . . . 1. S. AMARANTHOIDES.
Heads stramineous, broadly ovoid, less than 1·5 cm. long; subtending bracts gradually long-acuminate, adaxial bracts truncate with a short mucro; hermaphrodite flower large, ovary rugose; female flowers 4 sessile; ovary hairy . . . . . . 1a. *S. zeylanicus.*

S. ZEYLANICUS Heyne in Wall. Cat. no. 3180 (1828) nomen; Robyns in Kew Bull. p. 187 (1924).
Without locality, but probably from Ceylon, Wight in Herb. Wallich 3180 B, Wight 1416 (type).
Also in S. India.
I do not think that this is specially distinct from *S. amaranthoides* Burm. but the specimens at Peradeniya are insufficient for certainty.

*Page* 28.—

1. **Anaphalis cinnamonea** Trim.; ?Clarke.
Naminakuli; Kunadiyaparavita, Bopatalava.

*Page* 30.—For *A. oblonga* DC. read:

5. **A. subdecurrens** Gamble Fl. Madr. p. 695 (1921). *Gnaphalium subdecurrens* DC. in Wight Contrib. p. 21 (1834). *Anaphalis oblonga* DC. Prodr. VI, p. 274 (1837).
Var. **lutea** var. nov.

Bracts light yellow.

Growing with the type and equally common.

*Page* 31.—

8. **A. brevifolius** DC.
Endemic.

*Page* 32.—

16a. GNAPHALIUM *Linn.*

Annual herbs; l. lanceolate, entire, sessile; heads small, numerous, in leafy spikes; involucre campanulate; bracts multiseriate, scarious; outer fls. female, filiform, 3–4 toothed; disk fls. tubular, hermaphrodite, 5-lobed; anth.-bases sagittate, tailed; achenes not ribbed; pappus uniseriate, caducous.—Sp. 100.

G. POLYCAULON Pers. Syn. II, p. 421 (1807). *G. multicaule* Willd. Sp. Pl. III, p. 1888 (1800) non Lamk. *G. indicum* Linn. Sp. Pl. p. 852 (1753) quoad syn. Pluk.

Herb, 6–12 in.; stem densely covered with a white felt, usually much branched; leaves spathulate, $\frac{1}{2}$–$1\frac{1}{2}$ in., cottony on both surfaces; heads $\frac{1}{8}$ in., densely crowded; involucral bracts scarious, yellowish, outer cottony; achenes minutely papillose.

A common weed above 5000 ft. Fl. March, Oct.
Native of the Old World tropics.

*Page* 32.—

17. **ELICHRYSUM** *Gaertn.*

(*Helichrysum*)

Heads $\frac{1}{4}$ in. . . . . . . . . *E. buddleoides.*
Heads $1\frac{1}{2}$ in. . . . . . . . . *E. bracteatum.*

E. BRACTEATUM Andr. Bot. Rep. sub. t. 428; Willd. Enum. Hort. Berd. p. 869 (1809); Benth. Fl. Austral. III, p. 620 (1866). *Xeranthemum bracteatum* Vent. Jard. Malm. t. 7 (1803). *Elichrysum bicolor* Lindl. Bot. Reg. XXI, t. 1814 (1836).
About Nuvara Eliya, semi-wild.
Native of Australia.

*Page* 33.—For *Vicoa auriculata* Cass. read:

**V. indica** DC. in Wight Contrib. p. 10 (1834). *Inula indica* Linn. Sp. Pl., ed. 2, p. 1236 (1762). *Vicoa auriculata* Cass. in Ann. Sc. Nat. XVII, p. 33 (1829).

### 18a. CARPESIUM *Linn.*

C. CERNUUM Linn. Sp. Pl. p. 859 (1753); Hk. f. in Fl. Brit. Ind. III, p. 300 (1882).
Found in Australia as an introduced plant.

### 18b. LAGASCEA *Cav.*

Herbs or shrubs; leaves opposite, or the upper alternate, entire or toothed; capitula aggregated in compound heads, surrounded by large bracts; each capitulum 1-flowered; true involucral bracts connate into a false calyx, receptacle very small; florets all hermaphrodite, regular, 5-toothed; anther-bases sagittate, with obtuse auricles; style arms elongate, acute, hairy; achenes compressed, more or less 3-angled; pappus of 2–3 short bristles.—Sp. 7; Tropical America.

L. MOLLIS Cav. in Anal. Cienc. Nat. VI, p. 333 t. 44 (1803). *Noccæa mollis* Jacq. Fragm. t. 13 (1800); Hk. f. in Fl. Brit. Ind. III, p. 302 (1882).

An annual herb; stem erect, up to 2 ft. high; leaves ovate, 3-nerved from the base, villous beneath; lamina $\frac{3}{4}$–2 in. long; petiole $\frac{1}{4}$ in. long; compound heads $\frac{1}{3}$ in. across, solitary, on long peduncles, surrounded by green, obovate bracts; florets white; anthers black.

A weed of cultivation at Peradeniya (1887). Fl. May, Aug., Sept.
A native of Tropical America, now widely dispersed.

### 18d. ACANTHOSPERMUM *Schrank.*

Annual herb; l. opposite; heads terminal, usually between dichotomous branches; involucre uniseriate; receptacle paleaceous; outer fls. minutely ligulate, female, disk male, tubular; achene spiny, compressed.—Sp. 3.

A. HISPIDIUM DC. Prodr. V, p. 522 (1836); Blake in Contr. U.S. Nat. Herb. XX, p. 386 t. 23c (1921). *A. humile* Petch in Ann. Perad. VII, p. 330 (1922) non DC. **Katu-nerenchi,** *S.*

A diffuse annual herb; stem 1 ft., hirsute; l. opposite, sessile, lyrate-ovate, irregularly serrulate, pubescent beneath; heads shortly peduncled; ray fls. about 6; achenes pale, cuneate, with two diverging spines at the upper angles and several smaller spines on the sides.

Introduced and spreading in waste places. Colombo (1916); Puttalam (1921); Syambilagastenna, near Urugala (1926); Tabbova veva (1926). Fl. Aug.; yellow.
Native of Tropical America.

*Page* 34.—For *Chrysogonum* L. read:

19. **MOONIA** *Arn.*

For *Chrysogonum heterophyllum* Clarke read:

**Moonia heterophylla** Arn. Pug. p. 31 (1836); Gamble Fl. Madr. p. 704 (1921). *Chrysogonum heterophyllum* Clarke Comp. Ind. p. 132 (1876).

24a. ELEUTHERANTHERA *Poit.*

Annual herb; leaves opposite; heads small, shortly pedunculate; involucre campanulate; bracts 5–10, subequal; receptacle small, convex, paleaceous; paleæ clasping the flowers; ray florets usually wanting, neuter; disk florets fertile, regular, tubular, 5-toothed; anthers minutely sagittate at base; style-arms rather long, acute, hairy on the back; achenes obovate-oblong, obscurely 2–3-angled; pappus of 2–3 short bristles, united at base.—Sp. 1; a native of Tropical America.

E. RUDERALIS Sch. Bip. in Bot. Zeit. XXIV, p. 239 (1866); Petch in Ann. Perad. IX, p. 349 (1925). *Melampodium ruderale* Sw. Fl. Ind. Occ. III, p. 1372 (1806). *E. ovata* Poit. ex Steud. Nomencl., ed. 2, I, p. 549 (1840). *E. prostrata* Sch. Bip. in Bot. Zeit. XXIV, p. 239 (1866). *Fingalia hexagona* Schrank, in Syll. Ratisb. I, p. 87 (1824). *Ogiera leiocarpa* Cass. in Dict. Sc. Nat. XLIII, p. 371. *O. triplinervia* Cass. l. c. XXXV, p. 445. *O. ruderalis* Griseb. in Mem. Arn. Acad., N.S. VIII, p. 513 (1863). *O. Eleuthranthera* Steud. Nomencl., ed. 2, I, p. 549 (1840).

Stem erect, up to 2 ft. high; leaves ovate; lamina 1–2½ in. long, scabrous about, slightly pubescent beneath; petiole about ½ in. long; heads about ¼ in. across.

Common in abandoned chenas in the dry region. Fls. May, November; white.

A native of Tropical America.

Introduced in 1920 among *Chenopodium* seeds, but this was not the first introduction as it was found growing wild at the same time (November, 1920).

24. TITHONIA *Desf.*

Herbs or shrubs, leaves alternate; heads large, on long peduncles swollen at the apex; involucre hemispherical or broadly campanulate; involucral bracts in two rows; receptacle convex, paleaceous; ray-florets neuter; disk-florets regular, hermaphrodite, 5-toothed; anther bases entire; achenes oblong, 4-angled; pappus of 2 bristles.—Sp. 5; Tropical America.

T. DIVERSIFOLIA A. Gray in Proc. Amer. Acad. XIX, p. 5 (1883); Blake in Contr. U.S. Nat. Herb. XX, p. 434 (1921). *Mirasolia diversifolia* Hemsl. in Godm. Biol. Centr. Amer. Bot. II, t. 47 (1881).

A shrubby perennial, erect, up to 5 ft. high; leaves usually 3-lobed but often 5-lobed or simple, broadly ovate in outline; lamina 3–7 in. long, crenate, somewhat scabrous above, softly puberulous beneath; heads 3 in. across.

Common in waste places. Fls. July; orange-yellow.
A native of Central America.

### 25a. Synedrella *Gaertn.*

Annual; l. opposite, simple; heads small, axillary or terminal, sessile; involucral bracts few, linear, paleaceous; receptacle paleaceous; outer fls. female, rays short, broad, 2–3 toothed; disk fl. bisexual, fertile, tubular, 4-toothed; anther-bases subentire; style-arms of bisexual fls. with long acute tips; achenes of ray-fls. dorsally compressed, smooth, with 2 lacerate wings, of disk fls. triquetrous and often muricate.—Sp. 2.

S. nodiflora Gaertn. Fruct. II, p. 456 t. 171 (1791); Hk. Exot. Fl. t. 60 (1823). *Verbesina nodiflora* Linn. Amœn. Acad. IV, p. 290 (1787).

Annual; stems erect, about 1 ft., branched, sparingly pubescent, usually reddish; l. opposite, ovate, distinctly crenate-serrate, somewhat 3-nerved, thinly pubescent; petiole short, winged, wings with hairy margins; outer involucral bracts green, inner scarious; pappus of 2–3 spines; achenes blackish.

Introduced, common in the low country. Bentota (1887); Trincomalee; Peradeniya (before 1895).
Native of Mexico.

### 25b. Cosmos *Cav.*

C. bipinnatus Trim. Fl. Ceyl. III, p. 40 (1895) non Bot. Mag.

Annual herb, up to 4 ft. high; stem erect, solid, angular, with sparse purple tipped hairs; leaves deeply divided, hairy on the margins and on the veins beneath, about 5 in. long, 5 in. broad, triangular in outline; outer row of involucral bracts 8, green, spreading, connate at base, inner rows, alternate with the outer, reddish-purple with membranous margins or entirely membranous; rays 0·6 in. long, pink, white at base, 3-fid at apex; disk florets yellow, hairy inside; anthers black; achenes up to 1 in. long, black when ripe; bristles 2, retrorsely scabrous.

Common in waste places. Fls. August.
I have not yet been able to ascertain the correct name for this species.

*Page* 40.—For *Bidens pilosa* L. read:

Ray fls. creamy white . . . . . . . . 1. B. chinensis.
Ray fls. yellow . . . . . . . . . 2. B. bipinnatus.

**Part III.**

1. **B. chinensis** Willd. Sp. Pl. III, p. 1719 (1804); O. E. Schulz in Engl. Bot. Jahrb. p. 178 (1914); Willis in Ann. Perad. V, p. 544 (1914); Petch in Ann. Perad. VI, p. 70 (1916). *B. pilosa* Trim. Fl. Ceyl. III, p. 40 (1895) non Linn.

2. **B. pinnatus** Linn. Sp. Pl. p. 832 (1753); O. E. Schulz l. c. p. 183 (1914); Willis l. c. p. 544 (1914). *B. decompositus* Wall. Cat. p. 110 (1828) nomen; DC. Prodr. V, p. 602 (1836); Thw. Enum. p. 165 (1860). *B. pilosa* var. *bipinnata* Hk. f. ex Trim. Fl. Ceyl. III, p. 41 (1898).

As *B. chinensis* Willd., but leaflets 5, narrower, deeply cut; rays yellow; achenes and bristles longer.

Dry country; uncommon? Batticaloa; Trincomalee; Polonnaruva. Fl. March.
Throughout the tropics.

*Page* 41.—For *Glossogyne pinnatifida* DC. read:

**G. bidens** (Retz.). *Zinnia bidens* Retz. Obs. V, p. 28 (1789). *Bidens pinnatifida* Heyne in Wall. Cat. no. 3190 (1828) nomen. *Glossogyne pinnatifida* DC. in Wight Contrib. p. 19 (1834).

### 27a. GALINSOGA *Ruiz. & Pav.*

Annual; l. opposite, simple; heads small, peduncled; involucre 1–2 seriate; receptacle paleaceous; ray-fls. female, uniseriate; disk fls. bisexual, tubular, 5-fid; anther-base subentire; style arms acute; pappus of a few scales.—Sp. 5.

G. PARVIFLORA Cav. Ic. III, p. 41 t. 281 (1791–1801); Hk. f. in Fl. Brit. Ind. III, p. 311 (1882).

Annual herb; stem 1–2 ft., sparingly pubescent; leaves opposite, ovate, distantly serrulate; heads ¼ in. on long peduncles; involucre greenish; ray fls. white, usually 5; disk yellow; pappus of ciliate scales; achenes hispid, dark brown.

Common in waste places. Peradeniya (1882); Roehampton Est., Haputale (1890); Ambevela (1906); Gorindihela (1906); Hunasgiriya (1926). Fl. Jan., Feb., March, Sept.
Native of S. America.
This called "Gallant soldier" in England; a corruption of the Latin name.

### 27b. TRIDAX *Linn.*

Perennial, prostrate; l. opposite; heads on long peduncles; involucre campanulate; receptacle paleaceous; ray fls. female; rays 3-fid; disk fls. bisexual, 5-fid; anther-bases auricled; style-arms subulate; pappus plumose; achenes pubescent.—Sp. 7.

T. PROCUMBENS Linn. Sp. Pl. p. 900 (1753); Hk. f. in Fl. Brit. Ind. III, p. 311 (1882).

Herb, stem hirsute, about 1 ft., procumbent; leaves 1–2 in. long, ovate, deeply serrate; heads ½ in., on peduncles 8 in. to 1 ft. long; involucre green, hispid; rays pale yellow; disk florets yellow; achenes brown.

Common among short grasses, and in waste places. Peradeniya (1887); Colombo (1925). Fl. Apr., Sept., Oct.

Native of S. America.

### 27c. Tagetes *Linn.*

| | |
|---|---|
| Fls. large 1½–2½ in. across . . . . . . . | 1. *T. erecta.* |
| Fls. small ¾ in. . . . . . . . . . | 2. *T. patula.* |

1. T. erecta Linn. Sp. Pl. p. 887 (1753). *T. patula* Curt. Bot. Mag. t. 150 (1792) non Linn.

I have seen this species wild on Hunasgiriya, near Adam's Peak and in the Dolosbage district.

2. T. patula Linn. Sp. Pl. p. 887 (1753).

### 27d. Chrysanthemum *Linn.*

Annual or perennial herbs or shrubs; leaves alternate; heads on long peduncles, solitary or corymbose; involucre hemispherical; involucral bracts in many rows, with membranous margins; receptacle flat or convex; ray-fl. fem.; disk fl. tubular, 4–5-toothed, bisexual; anther-bases obtuse, entire; style-arms of bisexual fl. truncate; achenes rounded, angled or winged; pappus 0 or a membraneous ring.—Sp. 120; North Temperate.

C. segetum Linn. Sp. Pl. p. 889 (1753).

An annual, erect, about 1½ ft. high, glaucous, glabrous; leaves narrowly obovate in outline, irregularly toothed or lobed; heads terminal on long peduncles, 2 in. in diam.; ligules emarginate at apex; achenes of ray fls. ribbed and narrowly 2-winged.

Waste places about Nuvara Eliya; introduced before 1925. Fls. Dec., Feb.; golden-yellow.

A native of Europe.

### 27e. Cotula *Linn.*

Herbs; leaves alternate or opposite, usually pinnatisect; heads small, usually pedunculate, not rayed; involucre hemispherical; bracts in 1–2 series, sub-equal; margins membranous; receptacle naked; outer florets female or rarely hermaphrodite; corolla of female flowers minute or wanting, of hermaphrodite flowers regular, 4-toothed; anther-bases obtuse, entire; style-arms of hermaphrodite flowers truncate or obtuse; achenes glabrous, compressed; pappus minute or wanting.—Sp. 40; cosmopolitan.

C. AUSTRALIS Hk. f. Pl. N.Z. p. 128 (1864).

A prostrate annual herb; leaves deeply divided, obovate in outline, up to 1 in. long; heads under $\frac{1}{4}$ in. in diam., on terminal peduncles 1–2½ in. long.

A common weed of cultivation about Nuvara Eliya; also recorded from Dimbula.
A native of Australia.

*Page* 42.—For *Centipeda orbicularis* Lour. read:

**C. minima** A. Br. & Aschers. Ind. Sem. Hor. Berol., App. p. 6 (1867). *Artemisia minima* Linn. Sp. Pl. p. 849 (1753). *Centipeda orbicularis* Lour. Fl. Cochinch. p. 473 (1790). *C. minuta* Benth. in Gen. Pl. II, p. 230 (1873); Clarke Comp. Ind. p. 151 (1876).

### 29a. ERECHTITES *Raf.*

Erect annual or perennial herbs; leaves alternate, lobed or simple; heads in terminal corymbs; involucra cylindrical; involucral bracts in 1 series, narrow, equal; receptacle naked, flat; outer florets female, corolla 3–5-toothed at apex; disk florets hermaphrodite, regular, 5-toothed; anther-bases obtuse, entire; style-arms elongate, truncate at apex; achenes 5–10-ridged or angled; pappus copious.—Sp. 12; America and Australia.

E. VALERIANÆFOLIA DC. Prodr. VI, p. 295 (1837).

Stem up to 3 ft. high; leaves pinnatifid or rarely subentire, 3–5 in. long, glabrous, without auricles; heads under $\frac{1}{4}$ in. across; involucral bracts narrow, 0·4 in. long; achenes light brown.

A common weed in cultivated ground in the moist region below 2000 ft. Fl. Dec., Mar.; pale mauve.
A native of Brazil.

*Page* 43.—

### 30. GYNURA *Cass.*

Leaves with a pair of large auricles at base:
  Achene slightly hairy; stem reddish-purple; fls. orange . . . . . . 1. G. LYCOPERSECIFOLIA.
  Achene hispid; stem green; fls. bright yellow . . . . . . . . 2. G. ZEYLANICA.
Leaves without auricles or with occasional solitary ones:
  Leaves deeply and regularly pinnatisect; fls. dull yellow; stem green . . . 2a. *G. pseudo-china.*
  Leaves simple or irregularly lobed:
    Leaves densely hispid; fls. orange-yellow; achenes glabrous . . . 3. G. HISPIDA.
    Leaves subglabrous; fls. brick-red; stem green . . . . . . . 4. *G. crepidioides.*

2a. G. PSEUDO-CHINA DC. Prodr. VI, p. 299 (1837). *G. nudicaulis* Arn. in Nov. Act. Nat. Cur. XVIII, p. 351 (1836). *Cacalia bulbosa* Lour. Fl. Cochinch. p. 485 (1790)? *G. bulbosa* Hk. & Arn. *Senecio pseudo-china* Linn. Sp. Pl. p. 867 (1753). *Cacalia cathartica* Moon Cat. p. 57 (1824). *Crassocephalum pseudo-china* O. Ktze. Rev. Gen. II, p. 331 (1891).

Cultivated and occasionally found apparently wild.

Native of China?

4. G. CREPIDIOIDES Benth. in Hk. Niger Fl. p. 438 (1849). *G. polycephala* Benth. l. c. *G. diversifolia* Sch. Bip. ex Asch. in Schweinf. Bertr. Fl. Æthiop. p. 156 (1867). *Senecio diversifolius* A. Rich. Tent. Fl. Abyss. I, p. 437 (1847) non Wall. *S. crepidioides* Asch. l. c. p. 155 (1867). *Crassocephalum diversifolium* Hiern. Cat. Welw. Afr. Pl. I, p. 594 (1896). *C. crepidioides* S. Moore in Journ. Bot. L, p. 211 (1912).

Erect annual herb, about 3 ft. high, with a musty odour like *Pelargonium;* stem green or rarely red; leaves simple or rarely pinnate, membranaceous, glabrous or sparsely puberulous, 4–5 in. long, elliptic, irregularly serrate, without auricles, or rarely with single auricles; heads drooping; involucral bracts green, narrow, pubescent, about 20; florets numerous, brick-red at apex, tube white; styles brick-red; achenes brown, hairy between the ribs.

Apparently a recent introduction, but now a very common weed in cultivated ground. Fls. August, etc.

A native of Tropical Africa.

Perhaps better placed in *Crassocephalum* Moench.

## 31. **EMILIA** *Cass.*

Bracts as long as the flowers; leaves glabrous,
  pandurate . . . . . . . . . 1. E. SONCHIFOLIA.
Bracts shorter than the flowers :
  Leaves hairy beneath :
    Fls. pale mauve :
      Leaves pinnatifid below . . . . . 2. E. JAVANICA.
      Leaves spathulate . . . . . . 2a. *E. prenanthoidea.*
    Fls. bright purple; leaves pandurate . . 3. E. SCABRA.
  Leaves glabrous beneath . . . . . 4. E. ZEYLANICA.

1. **E. sonchifolia** DC. in Wight Contrib. p. 24 (1834); Garab. in Kew Bull. 1924, p. 141. *Cacalia sonchifolia* Linn. Sp. Pl. p. 835 (1753) pp.

Sandy places near the sea shore, common. Colombo, Kirinde.

Also Tropical Asia and Africa.

2. **E. javanica** C. Rob. in Phil. Journ. Sc. Bot. III, p. 217 (1908). *Hieracium javanicum* Burm. f. Fl. Ind. p. 174 t. 57 f. 1 (1768). *Cacalia sagittata* Vahl Symb. III, p. 91 (1794). *Emilia sagittata* DC. Prodr. VI, p. 302 (1837); Garab. in Kew Bull. 1924, p. 143.

Stem decumbent at base, not rooting, glabrous; leaves about 2 in. long, lower pinnatisect, subacute, sparsely pubescent, upper lanceolate, acute, sagittate at base; heads

in lax, terminal corymbs; involucral bracts $\frac{1}{4}$ in. long, $\frac{2}{3}$ as long as the flowers, about 7; outer flowers spreading.

Low country, a weed of cultivation, common. Peradeniya. Fl. all the year, pale mauve.

Also Tropical Asia and Africa.

Garabedian (l. c.) quotes for this *C. coccinea* Curt. Bot. Mag. t. 564 which has red flowers. The flowers are stated to be purple by Vahl and Burmann. In my specimens they were pale mauve.

2a. E. PRENANTHOIDEA DC. Prodr. VI, p. 305 (1837); Garab. l. c. p. 140 (1924); Hk. f. in Fl. Brit. Ind. III, p. 336 (1882).

There are specimens at Peradeniya that may be this species. *E. Walkeri* is regarded as a distinct species by Garabedian.

3. **E. scabra** DC. Prodr. VI, p. 304 (1837); Garab. in Kew Bull. 1924, p. 141 Wight Ic. t. 1123 (1843). *E. sonchifolia* var. *scabra* Hk. f. in Fl. Brit. Ind. III, p. 336 (1882).

Stem decumbent at base, not rooting, sparsely puberulous; leaves $1\frac{1}{2}$–$3\frac{1}{2}$ in. long, pandurate, rounded at apex, pubescent, the upper lanceolate, with rounded auricles; heads in lax, terminal corymbs; involucral bracts $\frac{1}{4}$ in. long, over $\frac{3}{4}$ as long as the flowers, about 7; outer flowers spreading.

Montane zone, a weed of cultivation, common. Hakgala; Hunasgiriya; Adam's Peak. Fls. Nov.; bright purple.

Also in the S. Indian Mts.

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**Notonia grandiflora** DC.

Westminster Abbey (F. Lewis).

### 33a. CARDUUS *Linn.*

C. PYCNOCEPHALUS Linn. Sp. Pl., ed. 2, p. 115 (1762); Jacq. Hort. Vind. I, p. 17 t. 44.

This species has occurred as a weed at Nuvara Eliya. It is a native of Europe and N. Africa.

### 34a. HYPOCHÆRIS *Linn.*

Perennial or rarely annual herbs; leaves radical, entire or pinnatifid; heads in corymbs or solitary; involucral bracts multiseriate; receptacle flat, paleaceous; fls. all hermaphrodite; rayed, 5-toothed at apex; anth. sagittate at base; achenes oblong or linear, 1-ridged, slightly contracted at base, more or less beaked; pappus 1-seriate, plumose, sometimes with another series of simple hairs.—Sp. 30; Temperate regions.

H. RADICATA Linn. Sp. Pl. p. 810 (1753).

An erect perennial herb, up to 2 ft. high; leaves radical, pinnatifid, spathulate in outline, up to 5 in. long, hispid;

heads in lax corymbs on glabrous peduncles; involucral bracts sparsely hispid.

About Nuvara Eliya. Fl. Dec., Feb.; yellow.
A native of Europe and N. Africa.

### 34b. Taraxacum *Weber.*

T. vulgare Schrank, Baier. Reise p. 11 (1789). *T. Densleonis* Desf. Fl. Atl. II, p. 228 (1798). *T. officinale* Weber ex Wigg. Prim. Fl. Hols. p. 56 (1780); Hk. f. in Fl. Brit. Ind. III, p. 401 (1882). *Leontodon Taraxacum* Linn. Sp. Pl. p. 798 (1753). *L. vulgaris* Lamk. Fl. Fr. II, p. 113 (1778). *L. officinalis* Gmel. Syst. p. 1174 (1768).

*Page* 52.—For *Lactuca Heyneana* DC. read:

**L. runcinata** DC. in Wight Contrib. p. 26 (1834); Gamble Fl. Madr. p. 731 (1921). *Prenanthes sonchifolia* Willd. Sp. Pl. III, p. 1541 (1800) non *Lactuca sonchifolia* Willd. *Chondrilla racemosa* Poir. Encycl. Suppl. II, p. 330 (1811) non *Lactuca racemosa* Willd. *Chondrilla indica* Steud. Nom., ed. 1, p. 191 (1821) non *Lactuca indica* Linn. *L. Heyneana* DC. Prodr. VII, p. 140 (1838).

For *Launæa pinnatifolia* Cass. read:

**L. sarmentosa** (Willd.). *Prenanthes sarmentosa* Willd. Phytogr. p. 10 t. 6 f. 2 (1794); Sp. Pl. III, p. 154 (1800). *Launæa pinnatifida* Cass. in Ann. Sc. Nat. XXIII, p. 85 (1831). *L. bellidifolia* Cass. in Dict. Sc. Nat. XXV, p. 321 (1822).

### 35a. Sonchus *Linn.*

Annual or perennial herbs with latex; l. alternate; heads terminal; involucre multiseriate, herbaceous; receptacle flat, naked; fls. all ligulate; ligules 5-toothed at apex; anth.-bases sagittate; style-arms slender; pappus multiseriate, hairs united at base; achenes ribbed, not beaked.—Sp. 30.

Auricles acute; annual; invol. glabrous . . . 1. *S. oleraceus.*
Auricles rounded:
  Annual; invol. glabrous . . . . . . 2. *S. asper.*
  Perennial; involucre hispid . . . . . 3. *S. arvensis.*

1. S. oleraceus Linn. Sp. Pl. p. 794 (1753); Hk. f. in Fl. Brit. Ind. III, p. 414 (1882). *S. ciliatus* Lamk. Fl. Fr. II, p. 87 (1778).

An annual herb; stem about 2 ft.; leaves about 6 in. long, lanceolate, ½-amplexicaul, deeply pinnatifid, glabrous; auricles tailed; involucre glabrous; heads ¾ in. across; achenes ribbed and transversely wrinkled.

Common in waste places above 1500 ft. Fl. Feb.–Mar., Oct.
A native of Europe and N. Asia; introduced before 1836.

2. S. ASPER Garsault Fig. Pl. Anim. Med. t. 565 (1764); Hill Herb. Brit. I, p. 47 (1766); Vill. Hist. Fl. Dauph. III, p. 158 (1789).

A single specimen collected at Hatton in 1906 is probably this species. Trimen (p. 52) records it but preserved no specimen.

3. S. ARVENSIS Linn. Sp. Pl. p. 793 (1753).

A perennial (?) up to 3 ft. high; leaves 6–8 in. long, spathulate, short toothed, glabrous; auricles rounded; involucre hispid; heads $\frac{3}{4}$ in. across.

Common in waste places and on estates. Fls. Jan.
A native of Europe and N. Asia, introduced before 1715.
The heads are very small for *S. arvensis* Linn.

*Page* 54.—For *Scævola Koenigii* Vahl read:

1. **S. frutescens** Krause, Goodeniaceæ in Engl. Pflanzenreich IV, 277, p. 125 (1912); Gamble Fl. Madr. p. 734 (1921). *Lobelia frutescens* Mill. Gard. Dict., ed. 8, No. 1 (1768). *Scævola Lobelia* Murr. Syst. Veg., ed. 13, p. 178 (1774) pp.; Ham. in Trans. Linn. Soc. XVII, p. 250 (1835). *Lobelia Taccada* Gaertn. Fruct. I, p. 119 (1788). *Cerbera salutaris* Lour. Fl. Cochinch. p. 136 (1790). *Scævola Koenigii* Vahl Symb. Bot. III, p. 36 (1794).

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## LXXIII.—CAMPANULACEÆ.

Add to key:

Cor. 2-lipped, dorsally cleft to base (*Lobelieæ*).
  Staminal tube free from the corolla . . . . . 1. LOBELIA.
  Stamens epipetalous . . . . . . . . 1a. *Isotoma.*

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### 1. LOBELIA *Linn.*

Prostrate or suberect herbs; under 1 ft.:
  Leaves ovate; fls. usually blue or white:
    Leaves glabrous:
      Seeds ovoid, obtuse . . . . 1. L. ZEYLANICA.
      Seeds trigonous . . . . . 2. L. TRIGONA.
    Leaves pubescent . . . . . 3. L. AFFINIS.
  Leaves narrowly ovate-lanceolate; fls. mauve . . . . . . . . 3a. *L. radicans.*
Erect herbs; over 2 ft.:
  L. glabrous beneath; anthers not bearded; fls. white . . . . . . . 4. L. NICOTIANÆFOLIA.
  L. pubescent beneath; anth. usually bearded; fls. purplish . . . . 5. L. AROMATICA.

3a. L. RADICANS Thunb. in Trans. Linn. Soc. II, p. 330 (1794).

A creeping herb, with the ends of the stems suberect; l. narrowly ovate-lanceolate, sub-entire, up to 1 in. long, glabrous; fls. solitary, axillary, on stout pedicels ½–1½ in. long; corolla 0·9 in. across, pale pinkish-purple, with a green spot at the base of the lower lip.

Once seen at Haragama (1926), also at Hakkinda (1928), no doubt an escape from the Peradeniya Gardens, where it occurs as a weed. Fls. Apr.–May, August.
Native of Japan.

4. **L. nicotianæfolia** Heyne in Roth. Nov. Sp. p. 143 (1821).

Erect biennial or perennial (?); stem usually simple, 3–5 ft., glabrous; l. glabrous; pedicels 1 in.; fls. white; anth. not bearded, usually hairy on back.

Montane zone; common. Ramboda; Maskeliya; Hantane; Maturata; Horton Plains; Naminakula. Fl. Mar., June, Dec.
Also in S. India.

5. **L. aromatica** Moon ex Wight Ic. t. 1172 (1850). *L. excelsa* Lesch. ex Roxb. Fl. Ind., ed. 2, II, p. 114 (1832); Gamble Fl. Madr. p. 737 (1921) non Bonpl.

Erect biennial (?); stem 6–10 ft., branched, glabrous or pubescent; l. bullate, pubescent beneath; pedicels 1–1¼ in.; fl. mauve; anth. not hairy, usually bearded.

Upper montane zone; common. Dolosbagie; Bandaravela; N. Eliya; Maturata. Fl. Feb.–March.
Also in S. India.

## 1a. ISOTOMA *Lindl.*

Herbs; leaves opposite; flowers axillary or in terminal racemes; calyx 5-lobed; corolla tube cylindric, shortly split at the back; stamens inserted at the top of the tube, filaments more or less connate; ovary inferior, 2-celled; stigma shortly 2-celled; fruit a capsule.—Sp. 8; mostly Australian.

I. LONGIFLORA Presl. Prodr. Lobel. p. 42.

Stem about 1 ft. high, erect, sparsely hairy; l. 4–7 in. long, oblanceolate, deeply and distantly toothed, hairy on the veins, apex obtuse, mucronate; fls. on short pedicels under ½ in.; cal. lobes, linear, green; cor.-tube about 3 in. long; fls. about 1½ in. across; staminal-tube longer than the cor.-tube; stamens bearded; stigma flat-topped, directed downwards; capsule oblong.

A weed by roadsides about Kandy. Fl. May, August.
A native of the W. Indies.

*Page* 58.—For *Wahlenbergia gracilis* A. DC. read:

**W. marginata** A. DC. Mon. Camp. p. 143 (1830). *Campanula marginata* Thunb. Fl. Jap. p. 87 (1784). *Wahlenbergia gracilis* A. DC. l. c. p. 142 (1830) non E. Mey.

*Page* 59.—

**Sphenoclea zeylanica** Gaertn.
Gintota.

*Page* 60.—

**Campanula fulgens** Wall.
Hakgala.

*Page* 61.—For *Vaccinium Leschenaultii* Wight read:

**V. symplocifolium** (G. Don) *Agapetes symplocifolia* G. Don Gen. Syst. III, p. 862 (1834). *Vaccinium Leschenaultii* Wight Ic. t. 1188 (1850).

*Page* 64.—

**PLUMBAGO** *Linn.*

Fls. white . . . . . . . . . P. ZEYLANICA.
Fls. red . . . . . . . . . *P. indica.*

*Page* 65.—For *Plumbago rosea* L. read:

P. INDICA Linn. in Stickm. Herb. Amb. p. 24 (1754). *P. rosea* Linn. Sp. Pl., ed. 2, p. 215 (1762).

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## LXXVII.—PRIMULACEÆ.

Capsule dehiscent by 5 vales . . . . . . . LYSIMACHIA.
Capsule circumscissile . . . . . . . . *Anagallis.*

*Page* 66.—For *Anagallis cœrulea* Lam. read:

A. FŒMINA Mill. Gard. Dict., ed. 8, no. 2 (1768).
This is also found in S. India (Gamble Fl. Madr. p. 747).

CYCLAMEN INDICUM Linn.
The name Urulu or Ur-ala means Pig's yam and is now used for the two small species of *Curculigo,* but Linnæus's description is a *Cyclamen.*
The confusion may have originated with the vernacular names Ur-ala and Varkensbrood.

*Page* 67.—For *Mæsa indica* A. DC. read:

**M. Perrottetiana** A. DC. in Trans. Linn. Soc. XVII, p. 80 (1834); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236, p. 40 (1902); Gamble Fl. Madr. p. 749 (1921). *M. indica* var. *Perrottetiana* Clarke in Fl. Brit. Ind. III, p. 509 (1882); Trim. Fl. Ceyl. III, p. 67 (1895) nec A. DC. nec Wall.

*Page* 68.—For *Myrsine* Linn. read:

2. **RAPANEA** *Aubl.*

For *Myrsine capitellata* Wall. read:

**Rapanea robusta** Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236 p. 362 (1902). *R. rubens Mez,* l. c. p. 362. *Myrsine capitellata* Trim. Fl. Ceyl. III, p. 65 (1895) non Wall.

Leaves over 2 in.; fls. stalked; petals recurved.

Var? **Thwaitesii** Mez, l. c. p. 357 (sp.) *M. capitellata* var. *lanceolata* Trim. Fl. Ceyl. III, p. 68 (1895) pp. non Clarke. *R. exigua* Mez, l. c. p. 364.

Leaves under 2 in., fls. stalked; petals recurved.

Var? **sessiliflora** Thw. Enum. p. 173 (1860) (sub. *M. capitellata*). *R. zeylanica* Mez, l. c. p. 359.

Fls. sessile; petals flat.

Endemic.

*Page* 70.—For *Embelia robusta* Roxb. read:

2. **E. acuta** (Dennst.). *Dauceria acuta* Dennst. Schluess. Hort. Malab. p. 31 (1818). *Ardisia Tsjeriam-cottam* Roem. & Schult. Syst. IV, p. 518 (1819). *Embelia Tsjeriam-cottam* A. DC. in Trans. Linn. Soc. XVII, p. 131 (1834); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236, p. 318 f. 52 (1902). *E. robusta* Trim. Fl. Ceyl. III, p. 70 (1895) non Roxb.

For *E. viridiflora* Scheff. read:

3. **E. obtusa** (Dennst.). *Dauceria obtusa* Dennst. Schluess. Hort. Malab. p. 31 (1818). *Ardisia Basaal* Roem. & Schult. Syst. IV, p. 517 (1819). *Embelia Basaal* A. DC. in Trans. Linn. Soc. XVII, p. 131 (1834); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, p. 238 f. 154 (1902). *E. viridiflora* Trim. Fl. Ceyl. III, p. 70 (1898) non Scheff.

4. **ARDISIA** *Swartz.*

Inflorescence terminal, paniculate; fruit red; shrubs 3–6 ft. high:
- Leaves oblong-lanceolate; panicle large . . 1 A. MISSIONIS.
- Leaves oval; panicle small:
  - Leaves thick; lat. veins oblique; fls. bright violet . . . . . . . 2. A. WILLISII.
  - Leaves thin; lat. veins horizontal; fls. pale pink or white:
    - Leaves entire; sepals obtuse . . . 3. A. GARDNERI.
    - Leaves crenate; sepals acute . . var. *zeylanica*.

Inflorescence axillary, racemose:
- Berries red; infl. axillary:
  - Fl. large, purplish-pink; a dwarf undershrub; lvs. purple beneath . . . . . . 4. A. MOONII.
  - Fl. small, white; a straggling shrub; lvs. green beneath . . . . . . . 5. A. PAUCIFLORA.

Berries black; infl. springing from the axils of reduced leaves; large shrubs:
Infl. many-flowered . . . . . . 6. A. HUMILIS.
Infl. few-flowered:
Pedicels scarcely more than $\frac{1}{4}$ in. long . . *A. Wightiana.*
Pedicels about $\frac{3}{4}$ in. long . . . . *A. solanacea.*

*Page* 71.—

1. **A. Missionis** Wall.
Also in S. India.

*Page* 72.—For *A. humilis* Vahl read:

2. **A. Willisii** Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236, p. 140 (1902); Willis Cat. no. 1190 (1911). *A. humilis* Trim. Fl. Ceyl. III, p. 72 (1895) non Vahl.

*Page* 73.—

4. **A. Moonii** Clarke.
Karavita Kande.

For *A. elliptica* Thunb. read:

6. **A. humilis** Vahl Symb. Bot. III, p. 40 (1794); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236, p. 140 (1902); Willis Cat. no. 1191 (1911).

A. WIGHTIANA Wall. Cat. no. 2230 (1830); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236, p. 133 (1902).
This is given for Ceylon (endemic) by Mez.

*Page* 74.—For *Ægiceras majus* Gaertn. read:

**A. corniculatum** Blanco. Fl. Filip., ed. I, p. 79 (1837); Mez, Myrsinaceæ in Engl. Pflanzenreich IV, 236 p. 55 (1902); Gamble Fl. Madr. p. 757 (1921). *Rhizophora corniculata* Linn. Amœn. Acad. IV, p. 123 (1760). *A. majus* Gaertn. Fruct. I, p. 216 (1788).

*Page* 76.—For *Sideroxylon* Linn. read:

2. **PLANCHONELLA** *Pierre.*

For *Sideroxylon tomentosum* Roxb. read:

**Planchonella tomentosa** Pierre Not. Bot. Sapot. p. 36 (1890); Dubard in Ann. Mus. Col. Mar. XX, p. 54 (1912). *Sideroxylon tomentosum* Roxb. Cor. Pl. I, p. 28 (1795).

*Page* 78.—For *Bassia* Koenig read:

4. **MADHUCA** Gmel.

For *Bassia longifolia* L. read:

1. **Madhuca longifolia** Macbr. in Contr. Gray Herb. LIII, p. 18 (1918); H. Lam. in Bull. Jard. Buit., sér. 3, VII, p. 182 (1925). *B. longifolia* Koen. ex Linn. Mant. II, p. 563 (1771). *M. indica* Gmel. Syst. p. 799 (1791). ?*B. latifolia* Roxb. Cor. Pl. I, p. 20 t. 19 (1795).

**Part III.**

For *Bassia Moonii* Bedd. read:

2. **Madhuca Moonii** H. Lam. l. c. p. 182 (1925). *B. Moonii* Bedd. For. Man. p. 140 (1873).

For *B. neriifolia* Moon read:

3. **M. neriifolia** H. Lam. l. c. p. 182 (1925). *B. neriifolia* Moon Cat. p. 36 (1824) nomen; Bedd. For. Man. p. 40 (1873?). *Dasyaulus neriifolius* Thw. Enum. p. 175 (1864).

For *B. microphylla* Hook read:

4. **M. microphylla** (Hook). *B. microphylla* Hk. Ic. Pl. I, t. 74 (1837).

*Page* 81.—For *Bassia fulva* Bedd. read:

5. **Madhuca fulva** Macbr. in Contr. Gray Herb. LIII, p. 18 (1918); H. Lam. l. c. p. 182 (1925). *B. fulva* Bedd. For. Man. p. 140 (1873). *Ficus mysorensis* Trim. Fl. Ceyl. IV, p. 86 (1898) pp. non Heyne fide Willis.
Ekiriankumbara, Uva (Willis).

*Page* 82.—

1. **Palaquium petiolare** Engl.
Hewesse (Wright); Pelawatte; Kitulgalla-Eratne (F. Lewis).

*Page* 85.—For *Mimusops* L. read:

Cal.-segm. and st. 8 . . . . . . . 6. MIMUSOPS.
Cal.-segm. and st. 6 . . . . . . . 6a. MANILKARA.

6a. MANILKARA *Rheede.*

Trees; stip. caducous; infl. axillary, clustered, many flowered; calyx-segm. 6, in two series; cor. with 6 lobes, each of them with 2 dorsal segments as large as itself; staminodes 6, ovate, acuminate, alternate with the petals; stam. 6, epipetalous; ov. 6-celled; style simple, exserted; fruit a fleshy berry; ovules laterally attached, hemianatropous; seed usually solitary; seeds compressed, ovoid; hilum apical; micropyle basal; testa crustaceous; endospermum abundant; cotyledons foliaceous, thin, ovate.—Sp. 35.

Fruit ½ in.; lvs. emarginate . . . . . . M. HEXANDRA.
Fruit over 1 in.; lvs. acuminate . . . . . *M. Kauki.*

*Page* 86.—For *Mimusopa hexandra* Roxb. read:

**Manilkara hexandra** Dubard in Ann. Mus. Col. Mar. XXIII, p. 9 (1915). *Mimusops hexandra* Roxb. Cor. Pl. I, p. 16 (1795).

For *Mimusops Kauki* Linn. read:

MANILKARA KAUKI Dubard l. c. *Mimusops Kauki* Linn. Sp. Pl. p. 349 (1753). *M. Bojeri* A. DC. in DC. Prodr. VIII, p. 205 (1844).

*Page* 93.—For *Diospyros Embryopteris* Pers. read:

Calyx not greatly enlarged in fruit; male fls. yellow:
  Fruit under $2\frac{1}{4}$ in. long, oblong; hairs on bud-scales brown; lvs, dark green; fem. fls. 1 in. across . . . . . . . . . 3. D. MALABARICA.
  Fruit over 3 in. long; globose; hairs on bud-scales black; lvs. light green; fem. fls. $\frac{1}{2}$ in. across . . . . . . . . . 3a. D. ATRATA.
Calyx greatly enlarged in fruit, as long as fruit; male fls. white; hairs in bud-scales black . 3b. D. ALBIFLORA.

3. **D. malabarica** Kostel. Allg. Med.-Pharm. Fl. III, p. 1099 (1831–6). *D. glutenifera* Wall. Cat. no. 4123 B (1828). *Embryopteris glutenifera* Roxb. Cor. Pl. I, p. 70 (1795); Kord. & Val. Boomsoorten op Java I, p. 43 (1898) (*globularia*). *D. Embryopteris* Pers. Syn. II, p. 624 (1807). *D. peregrina* Gamble Fl. Madr. p. 777 (1923) non *Embryopteris peregrina* Gaertn. *Garcinia malabarica* Desr. in Lamk. Encycl. III, p. 701 (1791).

3a. **D. atrata** sp. nov.* *D. Embryopteris* var. *atrata* Thw. Enum. p. 178 (1860).

A tree; twigs green; young parts covered with black hair, leaves lanceolate, glabrous, 5–7 in. long, often acuminate, thinner than in *D. glutenifera*, veins less prominent than in *D. albiflora;* petiole under $\frac{1}{2}$ in. long; male fl. $\frac{1}{2}$ in. long, 3–8 together, on short pedicels; cal. cup-shaped, subtruncate, covered with black hair; cor. greenish-white, broadly campanulate, $\frac{1}{2}$ in. across, 4-lobed; stam. numerous, pubescent; fem. fl. scarcely larger, 1–2 together, calyx with black hair on the inner surface; cor. 0·4 in. diam., pinkish-white; styles 4; ovules 8; fruit over 3 in., globose, brown; seeds 1 in. long, 0·6 in. broad; embryo with a large radicle.

Low country, in the intermediate zone; rather rare. Alutnuvara; Kadugannava; Gattekellie. Fl. May, July, Sept.

Also in S. India (Gamble).

Thwaites has written " Calamander " on one of the paintings, so the wood may be similar.

3b. **D. albiflora** sp. nov.† *D. Embryopteris* var. *nervosa* Thw. Enum. p. 178 (1860) non *D. nervosa* Phil.

A tree; twigs green; young parts covered with black hair; leaves ovate-lanceolate, glabrous, rounded at base, acuminate; lamina 3–5 in. long, coriaceous; veins very prominent below, less prominent above; petiole about $\frac{1}{2}$ in. long; male fl. white, 3–5 together, on short pedicels; cal. campanulate,

* *D. malabaricæ* Kostel. affinis, sed pilis nigris differt.—Typus: *Thwaites* C.P. 2731; *F. Silva* 25.

† *D. atratæ* affinis, sed calycis lobis marjoribus differt.—Typus: *Thwaites* C.P. 1910.

deeply lobed; female fls. not seen; fruit (immature?) 1 in. diam., with a large, persistent calyx.

Low moist country, Rayigam Korale; Galle; near Ratnapura. Fl. Apr.
Also in Java and Burma (Koorders).

*Page* 94.—For *Diospyros Toposia* Ham. read:

4. **D. racemosa** Roxb. Hort. Beng. p. 40 (1814); Fl. Ind. II, p. 536 (1824). *D. Toposia* Ham. in Trans. Linn. Soc. XV, p. 115 (1827).

*Page* 95.—For *Diospyros pruriens* Dalz. read:

6. **D. trichophylla** sp. nov.* *D. pruriens* Trim. Fl. Ceyl. III, p. 9 (1895); Wright in Ann. Perad. II, p. 15, t. 13 f. 9 (1904) non Dalz.
**Bu-kalavara**, *S.* (F. Lewis).

"The male inflorescence arises in the axil of a foliage leaf, and consists of a raceme of 3–4, pedicellate flowers, the oldest being at the base and youngest at the top; primary peduncle is reddish-brown, covered with long stiff hairs, 10 mm. long, 1 mm. diameter, widening towards flowers; bracts subtending pedicels of each flower reddish-brown, rounded, very hairy on lower surface, caducous, 3 mm. long. Flowers yellow, measuring 13–25 mm. in length. Calyx green, 8 mm. long, 5 mm. diameter at base; segments 4, thin and papery, accrescent, linear-oblong, narrow at base, tapering acuminate-apex, neutral surface covered with long yellowish-white hairs 5 mm. in length. Corolla yellowish-white, 13–25 mm. long, 24 mm. top diameter when flower open, throat tubular, narrow inner surface hairy, ventral surface covered with long white hairs, 2·5 mm. diameter, but shows conspicuous basal swelling, segmental portion being much longer than tube; segments 4, rotate with basal part over-lapping considerably, tapering acute apex, reddish-brown tint when mature, 13 mm. long, 6 mm. wide at base. Stamens 12–14 forming hypogynous connate group terminating receptacle or surrounding hairy rudiment of ovary; in one case the connate base of andrœcium before 7 separate stamens, each of which has a short white curved filament and grey anther opening introrsely by longitudinal slits, and measuring 1·5 mm. long; projecting above this was a yellowish-white pedicel 3 mm. long, which terminated in 5 sessile introrse anthers. The total length of this staminal system varies from 5–8 mm., and is the only one of its kind met with in Ceylon species. (See pl. XIII., fig. 10). Pistil absent or represented by rudimentary disc. Female flowers

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* *D. pruriens* Dalz. accedit, sed floribus fœminis longepedunculatis differt.—Typus: Eratne, *H. Wright.*

yellow, solitary in upper axils of foliage leaves. Peduncle 16 mm. long, 12 mm. wide, covered with long stiff hairs, and often curved so as to place the flower with stigma pointed downwards. Calyx green, accrescent in flower; segments 4–5, oblong, tapering acute apex 8 mm. long, 3 mm. wide at base, ventral surface covered with long white hairs, dorsal surface rather shiny and subglabrous. Corolla yellow, tubular, constricted towards middle, 10–28 mm. long; segments 4–5. Staminodes 5 or more, epipetalous, linear; anthers and filament glabrous. Pistil greenish-yellow, densely coated with long white hairs, styles 2, separate, 4 mm. long, stigmas 4, yellow ovary depressed, globose, 4-celled, 5 mm. diameter. Fruit solitary globose, strongly apiculate, 20 mm. diameter, 25 mm. high, greenish-yellow, covered with long white hairs said to sting, wall thin and shrinks considerably a few hours after fruits collected; fruiting calyx only slightly enlarged, segments inclined or nearly horizontal, thin, no cup formed, 11 mm. length, 4 mm. wide at base. Seeds 1–4 per fruit, elliptical-wedge to globose-ovoid in shape; testa reddish-brown, smooth, 16 mm. long, 10 mm. wide, 10 mm. thick; endosperm equable and under great pressure in young fruits; embryo white, 6–10 mm. long. Timber never black, but white tinged with yellow when freshly cut, on exposure turns red; heavy, compact; elements partially filled with reddish-brown deposit, low per cent. number of tracheal elements, 78·30 to 80·99 per cent. fibres." (Wright l. c.)

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7. **D. attenuata** Thw. **Kadumberiya,** *S.* (Wright). Borulugoda; Tittaveralu Kotha; Linigalla (F. Lewis). Vevella (Wright).

"Timber red with small black decaying heartwood, heavy, very compact fine grain; the smallness of the tree, maximum diameter being about 160 mm. (6–6½ inches) renders it impossible for most commercial purposes; tracheal elements are narrow but irregularly differentiated, fibres abundant. The medullary rays and vessels have characteristic large lamina." (Wright l. c. p. 154.)

8. **D. acuta** Thw.
Vevella; Virakanda (Wright).

"Timber when freshly cut is dirty white, but on exposure turns red; small trunk, no black heartwood, heavy compact." (Wright l. c. p. 157.)

For *D. Gardneri* Thw. read:

9. **D. Walkeri** Guerke in Engl. u. Prantl. Nat. Pfl. IV, I, p. 162 (1897). *Patonia Walkerii* Wt. III, I, p. 18 (1831). *Diospyros Gardneri* Thw. Enum. p. 181 (1860); Wright l. c. p. 160 f. 1–8 (1904).

"Timber yellow with occasional black strands, inferior; similar to *D. sylvatica;* wood parenchyma wide lumined, tracheal elements rather low percentage number; large radical strands of parenchyma occur in the wood (cf. *D. quæsita*); the coloured contents are not abundant; timber used for buildings. The wide lumined parenchyma and the sparse contents of the secondary xylem elements prove the timber to be of inferior quality." (Wright l. c. p. 160.)

10. **D. oocarpa** Thw. **Eta-timbiri,** *S.* (Wright).
Kulugala; Mihintale (Wright).

"The timber is very variable. The young trees have usually a small black or brown heartwood, and a sapwood of a faint red tint; large trees possess a coloured heartwood of considerable size; one tree having a total diameter of 690 mm. had a heartwood of 440 mm. diameter. The heartwood of such trees is invariably irregular in outline and presents a beautiful alternation of black and brown layers, which from an ornamental point of view greatly enhances the value of the timber; such specimens are almost equal to calamander for ornamental purposes." (Wright l. c. p. 163.)

11. **D. quæsita** Thw.
Yageralla near Udugama; Nahitimukalana, Atakalan Korale; Pennelmukalana, Madampe (Wright).

12. **D. sylvatica** Roxb. **Karuppu Thoveria,** *T.* (Wright).
Ganoruwa; Ambalawa; Sinha Raja Forest (Wright).

"Timber when freshly felled is yellow or white with a variable but usually small quantity of black heartwood; inferior but often used for fancy work and buildings." (Wright l. c. p. 171.)

13. **D. Melanoxylon** Roxb. **Kadumberiya,** *S.* (Wright).

"Male flowers in bud are green, pubescent, 5 mm. long, 3 mm. diameter; open flower 13 mm. long; there is much variation in the number and orientation of the members of accessory whorls and stamens. Calyx yellowish-green, pubescent, campanulate, 5–8 mm. long, 5 mm. diameter, occasionally very small; segments 3–6 and accrescent, apex acute, 1·5–3 mm. in length. Corolla yellowish-white, narrow-throated, outside covered with silky hairs, 12 mm. long, 3 mm. diameter; segments 4–6 usually 5, rotate, rounded or acuminate apex, 2 mm. long, 2 mm. wide. Stamens indefinite, 8–10–16–20, never epipetalous but terminate central disk, arranged singly or in equal or unequal groups of 2 or 3; in one case 15, arranged (*a*) outer whorl of 8, four in two connate adjacent pairs, and four successive separate stamens; (*b*) inner whorl of 7, two of which were connate (cf. *D. pruriens*); in another case 13, ten in 5 pairs with anthers of inner stamens shorter than outer, two as a pair with anthers of equal length, and one separate stamen with long anther and filament; anthers yellow, glabrous, slightly apiculate, 1·8–3 mm. long, opening by longitudinal

slits; filaments white, glabrous, 1·5–2·5 mm. in length. Pistil absent or represented by bunch of hairs or apiculate rudiment 2 mm. long. In one or two cases I suspected polygamy, but was not able to prove the undoubted occurrence of this condition. Female flowers solitary in axil of foliage leaf, large; in bud measure 5 mm. in length and 6 mm. in diameter; accessory whorls very unequal; peduncle short and stout, covered with light brown hairs, 1·5 mm. long, 3 mm. diameter two small hairy bracteoles on peduncle forming an opposite pair at right angles to antero-posterior axis (cf. *D. affinis* and *D. Ebenum*) 2 mm. long broad base, acute apex; occasionally a third bracteole occurs placed between flower and axis. Calyx green to brown, deeply lobed, pubescent, forming rather shallow cup; segments 4–7 usually 6, accrescent, tapering apex, broad base, margins undulate 7 mm. long, 5 mm. wide, become more nearly horizontal after fertilisation. Corolla yellow, wide-throated, white base, both surfaces covered with silky hairs, 9 mm. long, 5 mm. diameter; segments 5, tapering apex, 3 mm. long, 2·5 mm. wide. Staminodes indefinite 8–10–12, rarely epipetalous, when 12 in number they are opposite and alternate to calyx segments; anthers reddish-brown, barren, apiculate, glabrous, 1·5 mm. long; filaments yellowish-white, glabrous, 2·5 mm. long. Pistil green, globose, densely pubescent; stigmas 4, green hairy, and fleshy; ovary globose, 7 mm. long, 4 mm. diameter; 4–6-celled, but orientation of loculi very irregular; ovules usually disposed at right angles to the plane of antero-posterior axis and this apparently in consequence of pressure." (Wright l. c. p. 174).

Elukkapudena; Antibuvena, Diggalrana; Bibile (Wright).

"The Sinhalese call the tree Kadumberiya in this district. They collect the unripe fruits and after steeping them in water for two to three days, pronounce them fit to eat. Ripe fruits are abundant from May to July." (Wright l. c.)

14. **D. hirsuta** Linn. f.
Low moist country up to 2500 ft., common.

"The timber possesses no black heartwood, and when freshly cut is dirty white in colour turning reddish on exposure; the colour is due to coloured contents mainly in the wood parenchyma and medullary ray cells; a change in colour of the walls occurs." (Wright l. c. p. 181.)

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16. **D. oppositifolia** Thw. **Kadumberiya,** *S.* (Wright).

"The female flowers and fruits have not been previously described. Fruits usually solitary terminating young shoot, subsessile or on peduncle measuring 8–15 mm. long, 2 mm. diameter; peduncle greenish finely pubescent, and may or

may not bear bracteoles; yellow fragrant. Calyx green, outside finely pubescent, 9 mm. total length, diameter 4 mm. segments 4, rarely 3, deeply cut, tapering acute apex, thick, 6 mm. long. Corolla yellow, outside covered with short white hairs, 16 mm. long when unopened, diameter of open flower at top 20 mm. segments 4, rarely 3, rotate, tapering acute apex, 10 mm. long. Staminodes 4, epipetalous, alternate with corolla segments; in one case there were eight separate staminodes each typical in form and having barren anthers; anthers barren, brown tapering apex but not apiculate 2 mm. long; filaments white, glabrous, 1·5 mm. long. Pistil with 4 stigmas, yellowish-watery appearance, thin and undulating; style stout, 4 mm. long, 1·5 mm. diameter; ovary small, greenish, nearly glabrous, 8-celled, the loculi of adjacent pairs becoming grouped opposite the middle of calyx segments. Fruit solitary, terminates young shoot, ovoid-attenuate, 30 mm. long, 12 mm. diameter, green, glabrous. Some fruits have a broad base and taper quickly towards apex; others are narrow at base and strongly attenuate at apex; fruiting calyx woody, enlarged, forming deep cup for fruit, total length 18 mm. diameter." (Wright l. c. p. 185).

"The timber when freshly felled is white or dirty white in colour, with a hollow decayed centre. Young trees 75 mm. (3 inches) diameter are invariably hollow in the centre, and large trees measuring 480 mm. diameter possess only a narrow peripheral band of dirty white living wood, the central and median portions being quite rotten. On exposure the timber changes to a darker colour with irregular streaks of black, often giving a pattern to the transverse section similar to what has been noted in *D. ovalifolia.*" (Wright l. c.)

*Page* 101.—

17. **D. Thwaitesii** Bedd. **Kadumberiya,** *S.* (Wright). Palakeli, near Udugama (Wright).

"The sapwood when freshly cut presents a dirty appearance while the heartwood is light red. There is no real black heartwood, only small black traces here and there. The coloured materials in the various elements are small in quantity; fibres are abundant and medullary rays poor, hence an even-grained timber results. Rings of growth sometimes conspicuous, the light narrow rings measuring 0·2–1·2 mm. radical diameter and being distanced 2–8 mm. radically from one another." (Wright l. c.)

18. **D. Moonii** Thw. **Kadumberiya, Kaluvella,** *S.* (Wright). Penigival Forests; Kadavatte; near Galle; Hiniduma (Wright).

"A typical red wood with occasional small black strands; black heartwood absent or small; the elements are feebly lignified, even the fibres; vessels have rather large transverse dimensions. The colouring substances are not very abundant. The timber is much inferior

to ebony but superior to the yellow and white woods already described. It is rarely felled even where very abundant, and most natives disregard it entirely as a source of durable timber." (Wright l. c. p. 191.)

19. **D. affinis** Thw. **Kaluvella, Semel Panachai,** *S.* (Wright).
Viriniya, near Bibile; Alutnuvara; Kantalai; Kalugalla; Kurunegala; Vavuniya.

"The coloured heartwood is usually small but occasionally very good; one tree measuring 24–4 metres high (80 feet) and nearly 2 metres circumference (6½ feet) possessed a small black heartwood only 100 mm. (4 inches) diameter; in some specimens much smaller than the foregoing the heartwood was large, streaked brown, and probably sold as "bastard" ebony, such samples are often equal to our best woods from an ornamental point of view." (Wright l. c. p. 196.)

*Page* 102.—

20. **D. crumenata** Thw.
Hantane; Ganoruva; Kalugalla; Ambalava.

"Timber.—This is of medium quality and belongs to the red kind. The red colour intensifies from without inwards and local black strands occur here and there. The coloured heartwood is not usually large; some specimens, however, yield a large black and brown streaked heartwood of considerable beauty and value. The sapwood is much less durable than the heartwood, in consequence of the wide lumined tracheal and parenchymatous elements there existing. The heartwood contains a fair percentage of fibres of narrow lumen. Trees of this species are certainly worth a little attention judging from many excellent specimens which I have seen at Ambalava, near Gampola." (Wright l. c. p. 197.)

Also in Western India (Cooke).

*Page* 104.—For *Symplocos* Linn. read:

Stamens free; corolla tube short; infl. usually
  racemose . . . . . . . . 1. SYMPLOCOS.
Stamens connate in a tube; corolla tube long;
  fls. usually solitary, pendulous . . . . 2. CORDYLOBLASTE.

For *Symplocos obtusa* Wall. read:

Leaves 3–5 in. long; racemes many-flowered:
  Leaves rounded at base; petiole very short, purple 2. S. CUCULLATA.
  Leaves cuneate at base; petiole longer, yellow . 2a. S. MAJOR.
Leaves 1–3 in. long:
  Racemes many-flowered . . . . . 2b. S. FURCATA.
  Flowers sub-solitary . . . . . . 2c. S. OBOVATA.

2. **S. cucullata** Brand, Symplocaceæ in Engl. Pflanzenreich IV, 242, p. 56 (1901). *Lodhra cucullata* Miers, in Journ. Linn. Soc. XVII, p. 301 (1880). *Symplocos obtusa* var. *cucullata* Thw. Enum. p. 185 (1860).

A tree?; l. 3–5 in., extremely thick and leathery, glabrous, entire, obtuse at both ends, revolute or not; petiole short and thick, purple; fls. large, on short pedicels in long racemes; bracts caducous; calyx-segments rounded, with the margins minutely ciliate.

Montane zone, rare? Ambagamuva. Fls. March.
Endemic.

2a. **S. major** Brand l. c. p. 56. *S. obtusa* var. *major* Thw. l. c. p. 185.

A tree?; l. 4–5 in., obovate-oblong, glabrous, entire, slightly acuminate, cuneate at base, sometimes revolute; petiole longer than *S. cucullata*, yellow; fls. smaller than *S. cucullata*, pedicellate or sessile; margins of calyx segments ciliate; drupe ½ in., oblong-ovoid.

Montane zone; rather common; Nuvara Eliya; Dimbula; Elk Plains; Naminakula.
Endemic.

2b. **S. furcata** Brand, l. c. p. 57. *S. obtusa* Thw. l. c.; Trim. Fl. Ceyl. III, p. 104 (1895) non Wall.
Upper montane zone; common. Pedurutalagala; Nuvara Eliya; Hakgala; Sita Eliya; Knuckles; Horton Plains.
Endemic.
This seems doubtfully distinct from *S. cucullata* and *S. major* but if reunited the species must take the name *S. cucullata*.

2c. **S. obovata** Wight & Gardn. ex Thw. Enum. p. 185 (1860) in syn.; Livera in Ann. Perad. X, p. 317 (1927) nec A. DC. nec Wt.

Tree?; leaves 1–1½ in., glabrous, entire, broadly ovate, cuneate at base, slightly revolute; petiole short; fls. usually solitary, on long pedicels; drupe oblong.

Upper montane zone; rare? Pidurutalagala; Palagala.
I think that this species should have a new name as the reference to *S. obovata* seems only to have been an error of identification.

9. **S. jucunda** Thw. var. **diversifolia** Brand, l. c. p. 62 (sp.).

Leaves less bullate, drying green instead of brown.

12. **S. elegans** Thw.
*S. amabilis* Brand is rightly reduced to this by Livera.

*Page* 109.—

13. **S. minor** Clarke.
*S. glabrescens* Brand and *S. eugenioides* Livera do not appear to be specifically distinct from this, but more material is required to settle this question. The latter should also be compared with *S. elegans*.

*Page* 110.—

16. **S. apicalis** Thw.
Var. *glabrifolia* Thw. was made a species by Brand but I think wrongly.

*Page* 111.—

18. **S. coronata** Thw. **Ugudu-hal,** *S.* (F. Lewis).

2. **CORDYLOBLASTE** *Moritzi.*

Shrubs; leaves alternate, exstipulate; fls. axillary, usually solitary and pendulous; calyx campanulate; corolla-tube elongated; stamens 40–60, connate into a tube attached to the corolla-tube at base; fruit an oblong drupe, crowned by the persistent calyx.—Sp. 10; Indo-Malayan.

I have followed Ridley, Fl. Mal. Pen. II, p. 307, in keeping this distinct from *Symplocos.*

For *S. pauciflora* Wight read:

**Cordyloblaste pendula** (Wight) *Symplocos pendula* Wight Ic. IV, t. 1237 (1847); Brand, l. c. p. 88; Willis Cat. no. 1258 (1911). *S. pauciflora* Wight ex Clarke in Fl. Brit. Ind. III, p. 587 (1882).

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## LXXXII.—OLEACEÆ.

Fruit capsular; erect shrub or small tree . . . *Nyctanthes.*
Fruit indehiscent . . . . . . . . . JASMINUM, etc.

*Page* 113.—

1. **JASMINUM** *Linn.*

Calyx segm. linear or lanceolate; leaves usually simple; fls. white:
  Calyx pubescent:
    L. densely pubescent beneath . . . . *J. pubescens.*
    L. becoming glabrous beneath:
      Fruit globose:
        Cor. tube 3 times cal.-segs. . . . *J. Sambac.*
        Cor. tube 5 times cal.-segs. . . . 1. J. GLABRIUSCULUM.
      Fruit pyriform . . . . . . *J. arborescens.*
  Cal. glabrous:
    Climbers:
      Lvs. usually over 2 in. . . . . *J. laurifolium.*
      Lvs. usually under 2 in.:
        Fruit ovoid-globose:
          Cal. segm. under $\frac{1}{6}$ in. . . . . 3. J. ANGUSTIFOLIUM.
          Cal. segm. over $\frac{1}{3}$ in. . . . . 2. J. SESSILIFLORUM.
        Fruit globose . . . . . . *J. Ritchiei.*
    Shrub, scarcely scandent . . . . . *J. rigidum.*
Cal. segm. shortly triangular; l. usually compound:
  L. trifoliate; fl. white:
    Lat. lflts. very small . . . . . 4. J. AURICULATUM.

Lfts. nearly equal . . . . . . 5. J. FLEXILE.
L. pinnate; fl. yellow . . . . . 6. J. HUMILE.

*Page* 116.—For *Linociera purpurea* Vahl read:

1. **L. zeylanica** Gamble Fl. Madr. p. 794 (1923). *Chionanthus zeylanica* Linn. Sp. Pl. p. 8 (1753) (*zeylonica*). *Linociera purpurea* Vahl Enum. I, p. 47 (1805).

Also in S. India.

*Page* 117.—For *L. albidiflora* Clarke and *L. leprocarpa* Clarke read:

Lvs. abruptly acuminate; cal.-segm. subtriangular, glabrous; pet. $\frac{2}{3}$ in. . . . . . 2. L. ALBIDIFLORA.
Lvs. gradually acuminate; cal.-segm. rounded, ciliate on margin; pet. $\frac{1}{4}$ in. . . . . 3. L. LEPROCARPA.

2. **L. albidiflora** Clarke, excl. var. *rostrata*.

Low country, rather common. Pittegalakande, Balangoda; Hantane; Galgama; Hevaheta; Batticaloa; Badulla. Fl. March, Apr., Sept.; yellowish-white.

Endemic.

3. **L. leprocarpa** Clarke in Fl. Brit. Ind. III, p. 608 (1882). *L. albidiflora* var. *rostrata* Clarke l. c. *Chionanthus leprocarpa* Thw. Enum. p. 189, no. 3 (1860). *C. rostrata* Thw. l. c. no. 4.

Moist low country up to 4000 ft., rather rare. Hunasgiriya; Deltota; Raxava; Hiniduma; Karavita Kande. Fl. Feb., March, Sept.; white.

Endemic.

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*Page* 122.—

## LXXXIV.—APOCYNACEÆ.

Add to key:

Ov. 1-celled:
Fruit a berry; flowers small . . . . . 1. WILLUGHBEIA.
Fruit a spinose capsule; flowers large . . . 1a. *Allamanda*.

### 1a. ALLAMANDA *Linn.*

Trees or shrubs, often scandent; leaves whorled, opposite or rarely alternate, often with glands in the axils of the lateral veins; flowers large, in lax, terminal racemes; calyx-segments 5, lanceolate; corolla funnel-shaped, tube abruptly narrowed at the base; corolla-lobes contorted; ovary entire, 1-celled; capsule globose or ovoid, spinose; seeds sometimes winged.—Sp. 12; Tropical America.

A. CATHARTICA Linn. Mant. II, p. 214 (1771).

A shrub, scrambling or scandent; leaves whorled, obovate-lanceolate, 4–6 in. long, $1\frac{1}{2}$ in. long, pubescent on the mid-rib beneath; flowers $3\frac{1}{2}$ in. long, 3 in. across, narrow part of tube $1\frac{1}{4}$ in. long.

Rather common in waste places in the low moist region. Fls. Apr., Sept.; bright yellow.
A native of Tropical America.

*Page* 126.—

**Rauvolfia serpentina** Benth. **Chivan amelpodi,** *T.* (Gamble).

*Page* 127.—For *Alyxia* Br. read:

4. **PETCHIA** *Livera.*

For *Alyxia zeylanica* Wight read:

**Petchia zeylanica** Livera in Ann. Perad. X, p. 410 (1926). *Gynopogon zeylanicum* K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 2, p. 151 (1897). *Alyxia zeylanica* Wight Ic. IV, t. 1293 (1850).

5. **HUNTERIA** *Roxb.*

For *H. corymbosa* Roxb. read:

**H. zeylanica** Gardn. ex Thw. Enum. p. 191 (1860); Livera in Ann. Perad. X, p. 410 (1926). *Cameraria zeylanica* Retz. Obs. IV, p. 24 (1786). *Hunteria corymbosa* Roxb. Fl. Ind. I, p. 695 (1820).
Moist low country; rather common. Colombo; Kalutara; Galle. Fl. Sept.
Var. **lanceolata** Wall. Cat. no. 1611 (1828); A. DC. Prodr. VIII, p. 191 (1844) (sp.). *H. Roxburghiana* Wight Ic. t. 1294 (1850). *H. Legocii* Livera in Ann. Perad. X, p. 410 (1926).

Leaves narrower.

Badulla; Rikillagaskada, Maturata district; Madugoda. Fl. June–July; yellowish-white.
Also in S. India.
I do not think that this is worth specific rank. *H. Legocii* Livera was founded on a drawing in Herb. Perad. which is probably inaccurate.

*Page* 128.—For *Cerbera Odollam* Gaertn. read:

**C. Manghas** Linn. Sp. Pl. p. 208 (1753) pp.; Merr. Interp. Rumph. p. 432 (1917). *C. Odallam* Burm. Ind. Hort. Mal. p. 7 (1769) (*Odellam*); Gaertn. Fruct. II, p. 193 (1791) (*Odollam*); Val. in Ann. Jard. Buit. XII, p. 244 (1895).

*Page* 130.—For *Vinca* Linn. read:

8. **LOCHNERA** *Rchb.*

Fls. small, white; leaves lanceolate . . . . 1. L. PUSILLA.
Fls. large, usually rose; leaves obovate . . . 2. *L. rosea.*

*Page* 130.—For *V. pusilla* Mur. read:

1. **L. pusilla** K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 2, p. 145 (1895). *Vinca pusilla* Murr. Act. Goett. p. 66 (1773).
Weed on the Farm School, Jaffna.

For *V. rosea* Linn. read:

L. ROSEA Rchb. Consp. 134 (1528). *V. rosea* Linn. Syst., ed. 10, p. 944 (1759).

A perennial herb; stem erect, about 1½ ft. high; leaves about 2½ in. long, ovate-spathulate, glabrous; flowers 1½ in. across, axillary, rose, white (var. *alba* Hort.) or white with a red centre (var. *oculata-rubra* Hort.); corolla-tube narrow, 1 in. long; follicles 1 in. long, longitudinally striate, obtuse or subacute.

Common in waste sandy places between Colombo and Galle. Fl. Aug.

Probably a native of the W. Indies, now found throughout the Tropics.

For *Plumeria acutifolia* Poir. read:

P. ACUMINATA Ait. Hort. Kew, ed. 2, II, p. 70 (1811). *P. acutifolia* Poir. in Lamk. Encycl., Suppl. II, p. 667 (1812).

This name is spelled *Plumiera* by Merrill, Interp. Rumph, and was spelled *Plumieria* in Virid. Cliff. according to the Codex Linneanus.

**Holarrhena mitis** R. Br.

Mirigama; Kitulgala; Pasdun Korale (F. Lewis); Madulkelle; near Habarana.

*Page* 132.—For *Tabernæmontana* L. read:

Corolla-tube dilated at the base . . . . . 10. REJOUA.
Corolla-tube slightly dilated at apex . . . . *Ervatamia.*

## 10. **REJOUA** *Gaudich.*

For *Tabernæmontana dichotoma* Roxb. read:

**R. dichotoma** Gamble Flor. Madr. p. 812 (1823). *Tabernæmontana dichotoma* Roxb. Hort. Beng. p. 20 (1814); Fl. Ind. II, p. 21 (1824).

*Page* 133.—For *Tabernæmontana coronaria* Br. read:

ERVATAMIA DIVARICATA (Linn.). *Nerium divaricatum* Linn. Sp. Pl. p. 209 (1753). *N. coronarium* Jacq. Coll. I, p. 138 (1786). *Tabernæmontana coronaria* Willd. Enum. Hort. Berol. p. 275 (1809). *T. divaricata* R. Br. ex R. & S. Syst. IV, p. 427 (1819). *Ervatamia coronaria* Stapf, in Fl. Trop. Afr. IV, p. 127 (1902). **Vata-suda,** *S.*

*Ervatamia* Stapf is kept up in the recent Kew Floras, such as Gamble Fl. Madras p. 812 (1923) and Ridley Fl. Malay Pen. II, p. 340 (1923), though H. Winkler (in Engl. Bot. Jahrb. XLIV, p. 372) considers *T. dichotoma* a transition from *Rejoua* to *Ervatamia.*

## 11. **ALSTONIA** *R. Br.* (non *Linn. f.*).

Leaves 3–7 in. long, veins close, parallel; corolla lobes overlapping to the left . . . . 1. A. SCHOLARIS.
Leaves 6–12 in. long, veins distant, oblique; corolla lobes overlapping to the right . . 2. *A. macrophylla.*

1. **A. scholaris** R. Br. **Mukampelai,** *T.* (Gamble).

2. A. MACROPHYLLA Wall. Cat. no. 1648 (1828); A. DC. Prodr. VIII, p. 409 (1844); Hk. f. in Fl. Brit. Ind. III, p. 643 (1882). **Havarinuga,** *S.*

A large tree, with smooth, light grey bark; leaves whorled, 6–12 in. long, those at the base of the inflorescence rather smaller, obovate-lanceolate, membranous, abruptly acuminate; fls. small, $\frac{1}{4}$ in. across, numerous, in large, terminal, paniculate cymes; mouth of corolla-tube pubescent; follicles about 15 in. long, slender.

Common in the jungle at Ganoruva; also at Hakkinda, Hindagala and Hantane. Fls. Feb.
A native of the Malayan region.

*Page* 134.—For *Parsonsia spiralis* Wall. read:

**P. lævigata** Alst. in Ann. Perad. XI, p. 203 (1927). *Echites lævigata* Moon Cat. p. 20 (1824).* *Helygia javanica* Bl. Bijdr. p. 1043 (1826) non *P. javanica* Bl. *Parsonsia spiralis* Wall. Cat. no. 1631 (1828); A. DC. Prodr. VIII, p. 402 (1844). *P. ovata* Wall. l. c. no. 1630. *P. javanica* K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 2, p. 184 (1895) non Blume. *Aganosma lævigata* Grah. Cat. Bomb. Fl. p. 113 (1839).* **Valanguna,** *S.* (Moon).

## 13. VALLARIS *Burm.*

Cymes pubescent; petiole $\frac{1}{2}$ in. long . . . . . V. SOLANACEA.
Cymes glabrous or puberulous; petiole 1–1$\frac{1}{2}$ in. . . . *V. glabra.*

*Page* 135.—For *V. Heynei* Spreng. read:

**V. solanacea** O. Ktze. Rev. Gen. p. 417 (1891). *Peltandra solanacea* Roth. Nov. Sp. p. 132 (1821). *Vallaris Heynei* Spreng. Syst. I, p. 635 (1825).

For *V. Pergulana* Burm. read:

V. GLABRA O. Ktze. Rev. Gen. p. 417 (1891). *Pergularia glabra* Linn. Mant. I, p. 53 (1767). *V. Pergulana* Burm. f. Fl. Ind. p. 81 (1768).

*Page* 136.—

2. **Wrightia angustifolia** Thw.
Ritigala.

*Page* 137.—

4. **W. zeylanica** R. Br.
*W. antidysenterica* R. Br. (*Nerium* Linn.) is an older name for this, but the species has not been recorded for S. India since Rheede's time and the leaves in his plate are larger than those of the Ceylon plant.

*Page* 138.—For *Chonemorpha macrophylla* G. Don read:

**C. fragrans** Alst. in Ann. Perad. XI, p. 203 (1929). *Echites fra-*

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* Based on Rheede Hort. Mal. IV, t. 9.

*grans* Moon Cat. p. 20 (1821). *E. macrophylla* Roxb. Beng. p. 20 (1814) nomen; Fl. Ind. II, p. 13 (1824) non H. B. K. *C. macrophylla* G. Don Gen. Syst. IV, p. 76 (1836).

*Page* 139.—

**Aganosma cymosa** G. Don.
Hunasgiriya.

*Page* 141.—

1. **Anodendron paniculatum** A. DC. **Girandi-dul,** *S.*

Add syn:

*A. manubriatum* Merr. in Phil. Journ. Sc. Bot. VII, p. 33.

2. **A. rhinosporum** Thw.
Ritigala.

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## LXXXV.—ASCLEPIADACEÆ.

Add to key:

Cor.-lobes contorted:
Corolla with a short tube, pale green . . . 2. CRYPTOLEPIS.
Corolla funnel-shaped, pinkish-purple . . . *Cryptostegia.*

And:

Stem erect:
Coronal processes laterally compressed; fls. pale violet or white . . . . . . . 6. CALOTROPIS.
Coronal processes spathulate; fls. scarlet . . 6a. *Asclepias.*

*Page* 145.—

**Cryptolepis Buchanani** R. & S.

*Periploca dubia* Burm. f. Fl. Ind. p. 70 (1768) is an older name but included, according to Merrill (in Phil. Journ. Sc. XIX, p. 573, 1921), two species, namely Katu pal valli Rheede Hort. Mal. IX, p. 15 t. 11 which is this, and also an undetermined Javanese plant which was the type.

*Page* 146.—

**Secamone emetica** R. Br.
Haragama.

*Page* 149.—

### 6a. ASCLEPIAS *Linn.*

Erect perennials; fl. medium-sized, in axillary umbels; corolla-lobes reflexed, valvate; pollen masses 1 in each cell, pendulous, waxy; coronal processes erect, adnate to the column; stigma 5-angled; follicles turgid, pointed, glabrous; seeds comose.—Sp. 60; 1 in *Fl. B. Ind.*

A. CURASSAVICA Linn. Sp. Pl. p. 215 (1753); Bot. Reg. t. 81 (1815); Hk. f. in Fl. Brit. Ind. IV, p. 18 (1885).

A perennial herb; stem erect, about 2 ft. high; leaves opposite, lanceolate, 4–6 in. long, glabrous, cuneate at base, acuminate; umbels on peduncles about 2 in. long, many-fld.; petals scarlet; corona orange.

Not uncommon in waste places up to 4000 ft. Ganoruva (1892); Talavakele (1906); Kumbukkan (1928). Fls. May, Sept., Dec.
A native of Tropical America.
**Pentatropis microphylla** W. & A.
The name bringing synonym is *Asclepias microphylla* Roxb. Hort. Beng. p. 85 (1814) nomen; Fl. Ind. II, p. 35, and if this is not the same as *A. microphylla* Heyne ex Roth. Nov. Sp. p. 177 (1821), *Cynanchum acuminatum* Adler in Thunb. Obs. in Cynanch. p. 5 (8. xii. 1821) is older, but Dr. Juel (in litt.) states that it is apparently not this species.

For *Dæmia* R. Br. read:

8. **PERGULARIA** *Linn.*

For *Dæmia extensa* Br. read:

**Pergularia extensa** N. E. Br. in Fl. Cap. IV, p. 758; Gamble Fl. Madr. p. 837 (1923). *Cynanchum extensum* Jacq. Misc. II, p. 353 (1781). *C. cordifolium* Retz. Obs. II, p. 15 (1781). *Dæmia extensa* R. Br. in Ait. Hort. Kew, ed. 2, II, p. 76 (1811).

*Page* 150.—For *Holostemma Rheedei* Wall. read:

**H. annularis** K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 2, p. 250 (1895); Gamble Fl. Madr. p. 834 (1923). *Sarcostemma annulare* Roth. Nov. Sp. p. 178 (1821). *Asclepias annularia* Roxb. Hort. Beng. p. 20 (1814); Fl. Ind. II, p. 37 (1824). *Holostemma Rheediana* Spreng. Syst. I, p. 851 (1825). *H. Rheedei* Wall. Cat. no. 4469 (1828) nomen; Pl. As. Rar. II, p. 51 (1831).
*Asclepias annularia* Roxb. was considered as published by citation of Rheede Hort. Mal. IX, t. 7, by C. B. Robinson in Phil. Journ. Sc. Bot. VII, p. 413 (1912).

*Page* 151.—For *Cynanchum pauciflorum* Br. read:

Leaves hastate-ovate, glabrous . . . . . 1. C. TUNICATUM.
Leaves ovate-linear, puberulous . . . . . 2. C. ALATUM.

1. **C. tunicatum** (Retz.). *Periploca tunicata* Retz. Obs. II, p. 15 (1781). *Cynanchum pauciflorum* R. Br. in Mem. Wern. Soc. I, p. 45 (1811).

2. **C. alatum** W. & A. Contrib. p. 86 (1834); Wight Ic. t. 1280 (1850); Hk. f. in Fl. Brit. Ind. IV, p. 23 (1885).

As *C. tunicatum* but stem with a line of hairs; leaves smaller, and much narrower, ovate-linear, contracted cordate at base, puberulous.

Montane zone; common? Maturata; Hakgala. Fl. Mar., May.
Also in S. India.

*Page* 157.—For *Tylophora Iphisia* Decaisne read:

2. **T. multiflora** (W. & A.). *Iphisia multiflora* W. & A. Contrib. p. 52 (1834). *Tylophora Iphisia* Dcne. in DC. Prodr. VIII, p. 610 (1844).

4. **T. zeylanica** Dcne.
*T. micrantha* Thw. is invalidated by *T. micrantha* Dcne.

*Page* 158.—For *Tylophora tenuis* Bl. read:

5. **T. tenuissima** Wight Contrib. p. 49 (1834). *Asclepias tenuissima* Roxb. Fl. Ind. II, p. 41 (1821).

6. **T. cordifolia** Thw. Enum. p. 196 (1860). *T. Thwaitesii* K. Sch. in Engl. u. Prantl. Nat. Pfl. IV, 2, p. 286 (1895).
Also in Tranvancore.
Bentham and Hooker, in Gen. Pl. II, p. 771, refer *Hybanthera cordifolia* Wils. to *Tylophora* but the combination was first made by O. Kuntze Rev. Gen. p. 424 (1891), so there is no necessity for Schumann's new name.

For *Tylophora asthmatica* W. & A. read:

7. **T. indica** Merr. in Phil. Journ. Sc. XIX, p. 373 (1921). *Cynanchum indicum* Burm. f. Fl. Ind. p. 70 (1768). *Asclepias asthmatica* Linn. f. Suppl. Pl. p. 171 (1781). *Tylophora asthmatica* W. & A. Contrib. p. 51 (1834).

*Page* 160.—

**Cosmostigma racemosum** Wight.
The Hantane specimen appears to be *Leptadenia reticulata* W. & A.

*Page* 161.—

**Dregea volubilis** Benth. **Titta-anguna,** *S.*

*Page* 161.—

**Dischidia Nummularia** R. Br.
*Collyris minor* Vahl, in Act. Soc. Hafn. VI, p. 111 (1810), is of the same date.

*Page* 162.—

2. **Hoya ovalifolia** W. & A.
Ellaboda Kande; Ritigala.

*Page* 164.—

**Leptadenia reticulata** W. & A.
Talaimannar; Kahatagasdigiliya; Warriagala, Hantane.

*Page* 167.—

5. **Ceropegia biflora** Linn.
I suspect that there are two species mixed here.

5. C. BIFLORA Linn. Sp. Pl. p. 211 (1753). *C. Candelabum* Thw. Enum. p. 199 (1860). *C. tuberosa* Roxb. Cor. Pl. I, p. 12 t. 9 (1795); Hk. f. in Fl. Brit. Ind. IV, p. 70 (1885). *C. intermedia* Hk. f. l. c. p. 71 (1885) pp. Thwaites's plant. ?*C. Elliotii* Hk. f. l. c. p. 70.

Low country in both regions; Nilgala, Uva; Kurunegala; Tissamaharama; Borale, Veligama; near Angurukolapilessa.

5a. C. CANDELABUM Linn. Sp. Pl. p. 211 (1753); Hk. f. l. c. p. 70. ?*C. acuminata* Roxb. Cor. Pl., I, p. 12, t. 8 (1795); Hk. f. l. c. p. 70 *C. intermedia* Wight Ic. t. 1263 (1850); Hk. f. l. c. p. 71 (1885) excl. Thwaites's plant.

A specimen from Passara, Uva and painting localised R. B. G. may belong to this species.

*Page* 169.—

2. **Caralluma campanulata** N. E. Br.

Also in S. India.

*Page* 172.—For *Strychnos micrantha* Thw. and *S. Beddomei* Thw. read:

A. W. Hill, in the Kew Bulletin for 1917, divides these into four species separated as follows:

Corolla tube shorter than lobes; corolla lobes 5; anth. hairy; ovary and style glabrous; tree? . . . *S. tetragona.*
Corolla tube equalling the lobes; anth. glabrous; ovary tomentose:
Leaves trinerved:
Corolla tomentose externally . . . . . S. CORIACEA.
Corolla glabrous externally . . . . . S. MICRANTHA.
Leaves triplinerved . . . . . . . . *S. lenticellata.*

S. TETRAGONA A. W. Hill in Kew Bull. 1917, p. 140; Petch in Ann. Perad. VII, p. 156 (1919).

C. P. 3720 B is referred to this by A. W. Hill.

Specimens from Rassagala are also referred to this by Petch (l. c. p. 157) they have bearded anthers, but the leaves are larger than in typical *S. tetragona*. There are also fruiting specimens labelled "Central Province" and "near Galle" by Thwaites.

This then appears to be an endemic wet zone tree (or climber). None of the specimens have tendrils.

3. **S. coriacea** Thw. Enum. p. 425 (1864); A. W. Hill l. c. p. 155 (1917); Petch l. c. p. 156 (1919).

Endemic.

This is only known from C. P. 3367 labelled "Central Province, Feb. 1855." It is readily distinguished from allied species by the large flowers.

1. **S. micrantha** Thw. Enum. p. 425 (1864) pp. *S. Beddomei* Trim. Fl. III, 173 (1895) pp.; A. W. Hill l. c. p. 156 (1917); Petch in Ann. Perad. VII, p. 155.

A. W. Hill gives: Trincomalee and Central Province up to 600 m. *Thwaites* C. P. 3720 A; 3540.

Petch adds "near Galle, Sept. 1857, and Bibile, Feb. 1858, a tree, *Thwaites* C. P. 3540. Between Ratnapura and Galle, March 1861, Peradeniya, March 1863."

The second sheet also contained specimens of *S. tetragona* A. W. Hill which were probably from between Ratnapura and Galle, as there are other specimens of *C. tetragona* labelled near Galle. Also a specimen from Sober Island, Trincomalee, H. Nevill.

I have seen sterile plants of this (?) at Hakkinda, near Peradeniya and in young fruit at Habarana and from Henaratgoda. I have seen no flowers so the identification is doubtful; all the plants seen were climbers.

I find the ovary only slightly puberulous or quite glabrous in C. P. 3720, which has glabrous anthers.

Though Thwaites marked one of his specimens "a tree" all the specimens except one have tendrils and were therefore climbers as marked by Nevill. Trincomalee seems to be the only certain locality, the plant is therefore probably an endemic, dry-zone climber.

S. LENTICELLATA A. W. Hill l. c. p. 159 (1917); Petch l. c. p. 156 (1919). *S. potatorum* Thw. Enum. p. 201 (1860) pp. *S. micrantha* Thw. l. c. p. 425 (1864) pp.

Represented at Peradeniya by a scrap of C. P. 1866, from Kurunegala, July 1835. Duplicates of the Galle (Champion) plants referred to by Petch were probably not seen by Hill.

Also in S. India.

*Page* 173.—For *S. colubrina* Linn. read:

2. **S. trichocalyx** A. W. Hill, in Kew Bull. 1917, p. 174. *S. minor* var. *nitida* Benth. in Journ. Linn. Soc. I, p. 101 (1857). *S. colubrina* Thw. Enum. p. 201 (1860) non Linn. *S. colubrina* var. *zeylanica* Clarke in Fl. Brit. Ind. IV, p. 87 (1885). *S. micrantha* var. *rhomboidalis* Dop. in Bull. Soc. Bot. Fr. LVII, p. 14 (1910).

Kandy (Moon 346); Galle (Pierre in Hb. Mus. Paris); Katalayvela, Bintenne.

*Page* 176.—

7. **S. potatorum** Linn. f.

N. of Rambukkana; near Ambepussa (F. Lewis); Polonnaruva; between A'pura and Mihintala.

Endemic.

*Page* 177.—For *Gaertnera Koenigii* Wight read:

**G. vaginans** Merr. Enum. Born. Pl. p. 580 (1921) pp. *Psychotia vaginans* DC. Prodr. IV, p. 520 (1830). *Syskesia Koenigii* Arn. Pug. p. 35 no. 110 (1834).

Endemic.

*Page* 178.—For *G. Walkeri* var. *Gardneri* Clarke read:

3a. **G. Gardneri** Thw. Enum. p. 202 (1860).

Near Gartmore Estate, Maskeliya.

Endemic.

*Page* 181.—For *Exacum zeylanicum* Roxb. read:

3. **E. trinerve** Druce, in Rep. Bot. Exch. Cl. 1913, p. 418 (1914). *Chironia trinervia* Linn. Sp. Pl. 189 (1753). *Exacum zeylanicum* Roxb. Hort. Beng. p. 83 (1814) nomen; Fl. Ind. I, p. 398 (1820).

E. ZEYLANICUM var. LEWISII Petch, in Ann. Perad. VII, p. 45 (1919). *Exacum sp.* F. Lewis in Journ. Linn. Soc. XLV, p. 151 (1920).

Appears to me referable to *E. Walkeri* Arn.

E. ZEYLANICUM var. RITIGALENSE Willis, in Ann. Perad. III, p. 282

(1907), has larger leaves and acute petals and may be referable to *E. macranthum*. The differences between *E. trinerve* and *E. macranthum* require study in the field. The size of the flowers and shape of the petals appears to be a variable character.

*Page* 185.—

4. **C. decussata** R. & S.

Ella; Gal-modua.

The flowers are white as shown in the Bot. Mag. rather than pale yellow as stated by Trimen.

*Page* 185.—For *Enicostema littorale* Bl. read:

**E. verticillatum** Engl. Pfl. Ost.-Afr. p. 313 (1895). *Gentiana verticillata* Linn. Syst. Nat., ed. 10, p. 952 (1759). *Enicostema littorale* Bl. Bijdr. p. 848 (1826).

*Page* 186.—

**Gentiana quadrifaria** Bl.

Kusnezow, in Act. Hort. Petrop. XV, p. 403 (1904), excludes the Indian plants with rosette leaves as *G. pedicellata* Wall. and restricts the name *G. quadrifaria* Bl. to the Ceylon and Java plants, making the Ceylon plant a variety *zeylanica* Kusn. This variety is recorded for S. India by Gamble, Fl. Madr. p. 876 (1913).

*Page* 187.—For *Crawfurdia japonica* Sieb. & Zucc. read:

**C. Championii** (Gardn.). *Tripterospermum Championii* Gardn. in Calc. Journ. Nat. Hist. VIII, p. 15 (1847).

Endemic.

I consider both the Japanese, *C. japonica* S. & Z. (*C. trinervis* Makino non Dietr.), and the Himalayan *C. volubilis* (*Gentiana volubilis* Don) distinct. The Ceylon plant has smaller, more abruptly acuminate leaves than either and a round fruit, whereas that of *C. volubilis* is oblong.

*Page* 192.—

1. **CORDIA** *Linn.*

Infl. spicate . . . . . . *C. Aubletii.*
Infl. corymbose:
  Cor. under ½ in. diam., white:
    Drupe ovoid, not more than ½ in.:
      L. glabrous on both surfaces, usually alternate:
        Fruiting calyx striate; leaves 2–4 in.; fruit ½ in., pink . . . . 1. C. DOMESTICA.
        Fruiting calyx not striate; leaves 4–5 in.; fruit ¼ in.; yellow . . 1a. C. OBLIQUA.
      L. scabrous above, more or less tomentose beneath, often sub-opposite:
        Leaves ovate-oval . . . . 2. C. MONOICA.
        Leaves lanceolate-oval:
          Upper surface of leaves dotted with white cystoliths . . . . 3. C. GHARAF.

Upper surface scabrous-hispid; drupe ½ in. . . . . . . . 3a. C. NEVILLII.
Drupe ovate-ovoid, over 1 in.; l. glabrous on both surfaces . . . . . . 4. C. OBLONGIFOLIA.
Cor. over 1 in. diam., orange . . . . . 5. C. OBCORDATA.

C. AUBLETII A. DC. Prodr. 10, p. 490 (1830); Petch in Ann. Perad. VII, p. 328 (1922).

This species has been recorded by Petch from near the Anuradhapura Hotel, it was probably a survivor from the Botanic Garden which formerly existed there.

*Page* 193.—For *C. Myxa* L. read:

1. **C. domestica** Roth. Nov. Sp. Pl. 123 (1821); Gamble Fl. Madr. p. 888 (1923). *C. Myxa* var. *minor* Thw. Enum. p. 214 (1860). *C. Myxa* var. *domestica* Clarke in Fl. Brit. Ind. IV, p. 137 (1885). *C. Myxa* Trim. Fl. Ceyl. III, p. 193 (1895) excl. var. *obliqua*, non Linn.

For *C. Myxa* var. *obliqua* Trim. read:

1a. **C. obliqua** Willd. Phytogr. p. 4 t. 4 (1794); Hutch in Kew Bull. 1918, p. 221; Gamble Fl. Madr. p. 887 (1923). *C. myxa* Thw. l. c. p. 213 (1860) non Linn. *C. Myxa* var. *obliqua* Trim. Fl. Ceyl. III, p. 193 (1895).

Kurunegala; about Kandy; Polonaruva; Dambulla.

Throughout the Eastern Tropics.

This is separated by Hutchinson from *C. Myxa* Linn., of which I have not seen specimens, on the length of the stigma lobes.

For *C. Rothii* R. & S. read:

3. **C. Gharaf** Ehrenb. ex Asch. in Sitzb. Naturf. Berl. p. 46 (1879); Blatt. in Rec. Bot. Surv. Ind. VIII, p. 306 (1921). *Cornus Gharaf* Forsk. Fl. Æg. Arab. p. 95 (1775). *Cordia Rothii* R. & S. Syst. IV, p. 798 (1819).

3a. **C. Nevillii** nom. nov.* *C. Perrottetii* Wight Ic. t. 1381 (1850) non A. DC.; Clarke in Fl. Brit. Ind. IV, p. 138 (1885).

A small tree (Clarke); young parts pubescent; l. sub-opposite, or alternate, about 2½ in.; elliptic lanceolate, cuneate at base, obtuse or subacute at apex, scabrous-hispid above, pubescent beneath; petiole ⅓ in.; fls., according to Clarke, "in small tomentose corymbs, with a tomentose tubular and campanulate, soon glabrescent calyx; and 4, ½–⅓ in. corolla lobes": drupe ⅔ in. ovoid.

Dry region rare, Kuchaveli, on exposed rocks near the sea (H. Nevill).

Also in S. India.

The fruit is said to be sweeter and pleasanter than in the other Ceylon species.

Wight erroneously identified this with De Candolle's plant and I cannot see how his name can be retained.

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* *C. Gharaf* Ehrb. affinis, sed foliis supra scabris differt.—Typus: Kuchaveli, *H. Nevill* (Distr. Alston 578).

*Page* 195.—

1. **Ehretia lævis** Roxb.:

Var. ?**canarensis** Clarke in Fl. Brit. Ind. IV, p. 142 (1885). *E. canarensis* Miq. in Fl. Hohenack no. 285; Gamble Fl. Madr. p. 891 (1923). *E. lævis* Wight Ic. t. 1382 (1850). *E. Championii* Wight & Gardn. ex Clarke l. c. in syn.

Leaves acuminate; infl. axillary; fls. smaller.

Rare; Hantane.

Also in the W. Ghats.

This is regarded as a distinct species by Gamble, who also keeps up *E. ovalifolia* Wight. The material in the Peradeniya Herbarium is not sufficient to decide between the extreme views of Trimen and Gamble so I have adopted the intermediate view of Clarke.

For *E. buxifolia* Roxb. read:

2. **E. microphylla** Lamk. III, II, p. 425 (1793); Merr. in Phil. Journ. Sc. Bot. IV, p. 692 (1909); Gamble Fl. Madr. p. 891 (1923). *Cordia retusa* Vahl Symb. II, p. 42 (1701) non *E. retusa* Wall. *E. buxifolia* Roxb. Cor. Pl. I, p. 42 (1795).

*Page* 197.—For *Rhabdia* Mart. read:

4. **ROTULA** *Lour.*

For *Rhabdia lycioides* Mart. read:

**Rotula aquatica** Lour. Fl. Cochinch. p. 121 (1790); Rob. in Phil. Journ. Sc. Bot. IV, p. 693 (1909); Gamble Fl. Madr. p. 893 (1923). *Rhabdia lycioides* Mart. Nov. Gen. Sp. II, p. 137 (1826).

## 6. **HELIOTROPIUM** *Linn.*

Fruit quite enclosed in the cal.; plant villous . 1. H. SUPINUM.
Fruit not enclosed in the cal.:
  Fruit of 4 achenes:
    Erect; cymes long:
      Stamens joined together by their tips, afterwards separating; stigma stalked, conical above the umbrella-shaped ring; leaves linear . . . . . 2. H. ZEYLANICUM.
      Stamens free; stigma sessile; leaves spathulate, glabrous . . . . 2a. *H. curassavicum.*
    Prostrate; cymes short:

*Page* 200.—For *H. paniculatum* Br. read:

2. **H. zeylanicum** Lamk. Encycl. III, p. 94 (1789); Duthie Fl. Gang. Pl. II, p. 93 (1911); Gamble Fl. Madr. p. 896 (1923). *H. paniculatum* R. Br. Prodr. p. 494 (1810).

2a. H. CURASSAVICUM Linn. Sp. Pl. p. 130 (1753); Rob. in Phil. Journ. Sc. IV, p. 695 (1909); Bot. Mag. t. 2669; in Ann. Perad. V, p. 538 (1914); Gamble Fl. Madr. p. 896 (1923).

Annual; stem up to 1½ ft., erect or prostrate, glabrous; leaves ½–1½ in. long, spathulate, glabrous; fl. numerous,

sessile in 1–2 rows in long simple or dichotomous cymes; cor.-tube not exceeding cal., lobes obtuse; fruit sub-globose.

Introduced, Kolanthurai, Jaffna (1914); Elephant Pass (1912). Native of the W. Indies. Also established in Tropical Africa and India.

*Page* 203.—For *Cynoglossum micranthum* Desf. read:

Fls. pale blue; lvs. not decurrent, often petiolate 1. C. ZEYLANICUM.
Fls. bright blue; lvs. sessile, slightly decurrent . 2. C. FURCATUM.

1. **C. zeylanicum** Thunb. ex Lehm. in Neue Schr. Naturf. Ges. Halle III, p. 21 (1817). *C. denticulatum* A. DC. Prodr. X, p. 150 (1846), var. *zeylanica* Clarke in Fl. Brit. Ind. IV, p. 157 (1885). *C. micranthum* Trim. Fl. Ceyl. III, p. 203 (1895) non Desf.
Also in India and Malaya.

2. **C. furcatum** Wall. ex Roxb. Fl. Ind., ed. 2, II, p. 6 (1824). Var. *lanceolata* Clarke in Fl. Brit. Ind. IV, p. 156 (1885). *C. micranthum* var. *decurrens* Trim. Fl. Ceyl. III, p. 203 (1895). ?*C. lanceolatum* Forsk. Fl. Æg. Arab. p. 41 (1775); Duthie Fl. Gang. Pl. II, p. 96 (1911).
Also in the Himalaya and Nilgiri mountains.

*Page* 205.—

**Erycibe paniculata** Roxb.:
Roxburgh's plate shows a plant with yellow flowers and lanceolate leaves and is probably the same as Trimen's later A'pura specimen. Some specimens however appear to be referable to:

E. WIGHTIANA Grah. Cat. Bomb. Pl. p. 137 (1839); Hk. f. in Bull. Herb. Boiss. V, p. 737; Gamble, Fl. Madr. p. 930 (1923). *E. paniculata* var. *Wightiana* Clarke, in Fl. Brit. Ind. IV, p. 181 (1885). *Catonia elliptica* Vahl, in Skrift. Kiobenh. VI, p. 101 (1810).
Also in S. India.
This is said to have white, sweet-scented flowers and broader, longer-petioled leaves. More field work is required to establish it as a species.

2. **RIVEA** *Choisy.*

Sepals oblong, acute; basal sinus of leaves deep . . . . . . . . R. ORNATA.
Sepals ovate obtuse; basal sinus of leaves shallow . . . . . . . . *R. hypocrateriformis.*

3. **ARGYREIA** *Lour.*

Add to key:

Leaves silky silvery-white beneath:
Leaves cordate at base . . . . . *A. nervosa.*
Leaves rounded at base . . . . . 2. A. SPLENDENS.

For *Argyreia tiliæfolia* Wight read:

1. **A. campanulata** (Linn.). *Stictocardia campanulata* Merr. in Phil. Journ. Sc. Bot. IX, p. 133 (1914). *Ipomœa campanulata* Linn.

Sp. Pl. p. 160 (1733); Trim. Fl. Ceyl. III, p. 221 (1895) pp.; Merr. l. c. p. 133. *Convolvulus tiliæfolius* Desr. in Lamk. Encycl. III, p. 544 (1791). *Agyreia tiliæfolia* Wight Ic. t. 1358 (1850). *Sticto-cardia tiliæfolia* Hall. f. in Engl. Bot. Jahrb. XVIII, p. 159 (1893). *Rivea campanulata* House in Muhlenb. V, p. 72 (1919).

The synonymy is discussed by Merrill l. c. Rheede, Hort. Malab. II, t. 56, mentions pubescent petioles, as does Desrousseaux in his description of *Convolvulus tiliæfolius,* which shows that this is the plant intended, though the venation, of the leaves in the plate, looks like that of *Ipomœa campanulata* Trim., while the depth of the sinus is varied by Rheede's artist. Trimen's description of *I. campanulata* Trim. is partly taken from a specimen of this plant collected by Thwaites. Prain (Journ. As. Soc. Beng. LXIII, p. 107) states that *Agyreia tiliæfolia* is purely a sea shore species.

*Page* 207.—For *Argyreia speciosa* Sweet read:

A. NERVOSA Boj. Hort. Maurit. p. 224 (1837); Merr. in Phil. Journ. Sc. XIX, p. 375 (1921). *Convolvulus nervosa* Burm. f. Fl. Ind. p. 48 (1768). *C. speciosus* Linn. f. Suppl. p. 137 (1781). *Argyreia speciosa* Sweet, Hort. Brit. p. 289 (1827).

## 4. **LETTSOMIA** *Roxb.*

Add to key:

Fl. 1 in. or more:
  L. hairy:
    L. lanceolate-oblong; corolla subglabrous . . 2. L. ELLIPTICA.
    L. ovate; corolla densely strigose without . . *L. setosa.*

*Page* 210.—

## 5. **IPOMÆA** *Linn.*

Ov. 4-celled (*Batatas*):
  Fls. purple:
    Seeds woolly; lvs. glabrous . . . . 1. I. DIGITATA.
    Seeds glabrous; lvs. usually sparingly hairy *I. Batatas.*
  Fls. pure white; lvs. sparingly hairy . . *I. cissoides.*
  Fls. red or rarely white:
    Lvs. broadly ovate . . . . . . *I. phœnicea.*
    Lvs. pinnate . . . . . . *I. Quamoclit.*
Ov. 3-celled:
  Twining; fl. 2 in. diam. or over:
    Annual; fls. usually bright blue . . . 2. I. HEDERACEA.
    Perennial; fls. usually dark blue . . . *I. Learii.*
  Not twining; fls. under ½ in. diam., creamy-white . . . . . . . . . 3. I. COPTICA.
Ov. 2-celled:
  Cor. tube over 2 in.; fil. long, equal (*Calonyction*):
    Seeds glabrous:
      Cor. white; capsule 1 in. . . . . 4. I. BONA-NOX.
      Cor. purple; capsule under ¾ in. . . *I. muricata.*

Seeds hairy; fls. white:
Hairs short, velvety, with a fringe of long hair . . . . . . . . . 5. I. GLABERRIMA.
Hairs all very long, silky . . . . . 6. I. JUCUNDA.
Cor. tube under 2 in.; fl. short, usually unequal:

And:

Fls. 2 in. diam.:
Leaves broadly ovate; fls. with purple centre *I. corymbosa.*
Leaves ovate-oblong; fls. pure white . . 18. I. CYMOSA.

And:

Leaves compound or very nearly so:
Fls. yellow:
Fls. pure yellow; seeds glabrous . . *I. kentrocaulos.*
Fls. buff with violet centre, seeds hairy . 29. I. DASYSPERMA.
Fls. dull violet; seeds hairy . . . 28. I. CAIRICA.

*Page* 213.—For *Ipomœa dissecta* Willd. read:

3. **I. coptica** Roth. Nov. Sp. p. 110 (1821). *Convolvulus copticus* Linn. Mant. p. 559 (1767). *Ipomœa dissecta* Willd. Phytogr. p. 5 (1794). *Operculina coptica* House in Bull. Torr. Bot. Cl. XXXIII, p. 500 (1906).

*Page* 214.—For *I. grandiflora* Lam. read:

5. **I. glaberrima** Boj. ex Bout. in Hk. Journ. Bot. I, p. 357 (1834); Prain, in Journ. As. Soc. Berg. LXIII, p. 102 (1894). *Calonyction muticum* Dcne. in Nouv. Ann. Mus. III, p. 390 (1834). *L. grandiflora* Trim. Fl. Ceyl. III, p. 214 (1895) non Lamk.

*Page* 215.—For *I. coccinea* L. read:

I. PHŒNICEA Roxb. Hort. Beng. p. 14 (1814); Fl. Ind. I, p. 502 (1820). *I. angulata* Mart. ex Choisy, in DC. Prodr. IX, p. 371 (1845) non Ort. *Quamoclit angulata* Boj. Hort. Maurit. p. 224 (1837). *Q. phœnica* Choisy in Mem. Soc. Phys. Genev. VI, p. 433 (1834); Gamble Fl. Madr. p. 919 (1926). *I. coccinea* Trim. Fl. Ceyl. III, p. 215 (1895) non Linn.

This species has been labelled *Q. angulata* Boj., which the Index Kewensis reduces to *I. angulata* but does not give any authority. I have called it *I. phœnicea* Roxb. because Gamble uses the name *Q. phœnicea* Choisy.

*Page* 217.—For *Ipomœa eriocarpa* R. Br. read:

12. **I. hispida** R. & S. Syst. IV, p. 239 (1819). *Convolvulus hispidus* Vahl, Symb. p. 329 (1790). *I. eriocarpa* R. Br. Prodr. p. 489 (1810).

*Page* 218.—For *I. reniformis* Choisy read:

15. **I. emarginata** O. Ktze. Rev. Gen. p. 443 (1891). *Evolvulus emarginatus* Burm. f. Fl. Ind. p. 77 t. 30 f. 1 (1768); Merr. in Phil. Journ. Sc. XIX, p. 374 (1921) in syn. *Convolvulus reniformis* Roxb.

Fl. Ind. II, p. 67 (1824). *Ipomœa reniformis* Choisy Conv. Or. p. 64 (1834). *Merremia emarginata* Hall. f. in Engl. Bot. Jahrb. XVI, p. 552 (1892).
Dambulla.

*Page* 219.—For *I. chryseides* Ker. read:

16. **I. gemella** Roth. Nov. Sp. p. 110 (1821). *Convolvulus gemellus* Burm. f. Fl. Ind. p. 46 (1768); Merr. in Phil. Journ. Sc. XIX, p. 374 (1921) in syn. *Merremia gemella* Hall. f. in Engl. Bot. Jahrb. p. 552 (1892).

*Page* 220.—For *I. sidæfolia* Choisy read:

I. CORYMBOSA Roth. Nov. Sp. p. 109 (1821). *I. sidæfolia* Choisy Mem. Soc. Geneve VI, p. 459 (1833) non Schrad. *Rivea corymbosa* Hall. f. in Engl. Bot. Jahrb. XVIII, p. 157 (1894).

For *I. sepiaria* Koen. read:

19. **I. maxima** G. Don in Sweet, Hort. Brit., ed. 2, 373 (1830). *Convolvulus maximus* Linn. f. Suppl. Pl. p. 137 (1781). *I. sepiaria* Koen. ex Roxb. Hort. Beng. p. 14 (1814).

*Page* 221.—For *I. campanulata* Linn. read:

21. **I. illustris** Prain, Beng. Pl. II, p. 735 (1903). *I. campanulata* var. *illustris* Clarke in Fl. Brit. Ind. IV, p. 211 (1865); Prain, in Journ. As. Soc. Beng. LXIII, p. 107 (1894). *I. campanulata* Trim. Fl. Ceyl. III, p. 221 (1895) pp. non Linn.
The Haragala plant was *Argyreia campanulata.*

22. **I. aquatica** Forsk.
*Convolvulus reptans* Linn. (*I. reptans* Poir.) is an older name but as pointed out by Hallier, Meded. Rijks Herb. p. 21 (1910), it is represented by *Ipomœa cæspitosa* O. Ktze. (*Merremia cæspitosa* Hall. f.) in Linnæus's Herbarium, in the Species Plantarum however he quotes a figure, in the Herbarium Amboinense, which is this species and has been accepted by some authors as the type.

Linnæus quotes *Olus vagum* Rumph., which is this species, under his *C. medium*. *C. medium* is referred to *Anisœa medium* Chois. by Choisy and to *I. denticulata* Choisy non R. Br. by the Index Kewensis; Linnæus's first citation is Rheede XI, p. 113 t. 55 which is *I. angustifolia* Jacq. It is the type of *I. media* Druce (*medium*). Hallier adopts *Merremia hastata* Hall. f. based on *Convolvulus hastatus* Lamk. non Forsk. for *I. angustifolia* Jacq.

The specimens of var. *parviflora* Trim. in the Peradeniya Herbarium have been marked *I. Gleniei*? by Hallier and certainly appear to be specifically distinct from *I. aquatica* Forsk. Clarke describes the peduncles of *I. acquatica* as "1-fld., ebracteate" while those of var. *parviflora* are usually 3-fld., he adds however "sepals obscurely muricate" which is very characteristic of var. *parviflora.*

Clarke describes *I. Gleniei* Thw. as "creeping, hardly twining" but does not say if the seeds were pubescent or not. It runs down to this species in the Key, and Thwaites probably intended the plant collected by Glenie afterwards named var. *parviflora* by Trimen. Mr. C. E. C. Fischer (in litt.) considers Glenie's plant to be *I. aquatica.*

*Page* 222.—For *I. repens* Lam. read:

23. **I. rugosa** Choisy Conv. p. 64 (1833). *Convolvulus rugosus* Rottl. in Ges. Naturf. Neue Schr. IV, p. 196 (1803). *Ipomœa repens* Lamk. Encycl. VI, p. 18 (1804). *Convolvulus repens* Moon Cat. p. 14 (1824) non Linn. *C. Beladambu* Spreng. Syst. I, p. 608 (1825). *Ipomœa Beladomboe* R. & S. Syst. IV, p. 233 (1819). **Ratu-bin-tamburu,** *S.*

*Page* 224.—For *Ipomœa biloba* Forsk. read:

26. **I. Pes-capræ** Roth, Nov. Sp. p. 109 (1821). *Convolvulus Pes-capræ* Linn. Sp. Pl. p. 159 (1753). *Ipomœa biloba* Forsk. Fl. Arab. p. 44 (1775).

I. KENTROCAULOS Clarke.

The plant cultivated in Ceylon as *I. tuberosa* Linn. has glabrous seeds and is apparently *I. kentrocaulos* Clarke.

*Page* 225.—For *I. palmata* Forsk. read:

28. **I. cairica** Sweet, Hort. Brit., ed. I, p. 287 (1827). *Convolvulus caricus* Linn. Syst., ed. 10, p. 922 (1759). *Ipomœa palmata* Forsk. Fl. Ægypt. Arab. p. 43 (1775).

*Page* 226.—For *Hewittia bicolor* W. & A. read:

**H. sublobata** O. Ktze. Rev. Gen. p. 441 (1891). *Convolvulus sublobatus* Linn. f. Suppl. p. 135 (1781). *Hewittia bicolor* W. & A. in Madr. Journ. Sc. V, p. 22 (1837).

**Convolvulus parviflorus** Vahl.

Add syn.:

*Ipomœa paniculata* Burm. f. Fl. Ind. p. 50 t. 21 f. 3 (1768) non *C. paniculatus* Linn. *Jacquemontia paniculata* Hall. f. in Engl. Jahrb. XVIII, p. 95 (1894); Gamble Fl. Madr. p. 926 (1923).

*Page* 227.—For *Breweria cordata* Bl. read:

**B. semidigyna** O. Ktze. Rev. Gen. p. 440 (1891). *Convolvulus semidygynus* Roxb. Hort. Beng. p. 13 (1814); Fl. Ind. I, p. 468 (1820). *Breweria cordata* Bl. Bijdr. p. 712 (1825).

*Page* 229.—

2. **Cuscuta chinensis** Lamk.; Petch in Ann. Perad. IX, p. 348 (1925).

This species is now common in the low moist region.

It has been found on *Mimosa pudica, Mikania scandens, Achyranthes aspera, Tridax procumbens, Triumfetta Bartramia, Ocimum gratissimum, Euphorbia hirta, Asystasia gangetica, Boerhaavia diffusa, Datura fastuosa,* etc.

Wight Ic. t. 1373 records it on *Vinca rosea* in Ceylon and t. 1372 on *Amaranthus oleraceus* in India, while Gamble, Fl. Madr. p. 931, gives *Ipomœa Pes-capræ.*

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## XCI.—SOLANACEÆ.

Anth. connivent into a cone, longer than filaments, dehiscing by pores at apex . . . . . . 1. SOLANUM.
Anth. not connivent, not longer than filaments, dehiscing by terminal slits:
  Cal. enlarged in fruit:
    Fls. solitary:
      Fruiting cal. shortly lobed; fls. yellow . . 2. PHYSALIS.
      Fruiting cal. deeply cleft; fls. blue . . . *Nicandra.*
    Fls. in umbellate symes . . . . . . 3. WITHANIA.
  Cal. not enlarged in fruit; fls. white . . . . *Capsicum.*

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### 1. SOLANUM *Linn.*

Add to key:

L. over 5 in. cal. densely tomentose:
  Fl. white; lvs. exauriculate . . . 4. S. VERBASCIFOLIUM.
  Fl. purple; lvs. auriculate at base . . 4a. *S. auriculatum.*
More or less prickly:
  Berry densely hairy . . . . . 6. S. FEROX.
  Berry smooth:
    Fls. white:
      Plants glabrous:
        Cymes 1-flowered; fruit 1 in., red . 6a. *S. aculeatissimum.*
        Cymes many-flowered . . . *S. atropurpureum.*
      Plant tomentose:
        Indumentum grey; plant up to 4 ft. . 7. S. TORVUM.
        Indumentum ferrugineous; plant 6 ft. 7a. *S. hispidum.*
    Fls. purple:
      Leaves over 2 in; berry not red:
        Cymes many-flowered:
          Leaves simple, lanceolate . . 5. S. GIGANTEUM.
          Leaves lobed, ovate in outline . 8. S. INDICUM.
        Cymes 1-flowered:
          Fruit usually purple or white, large; petals broad . . . . *S. melongena.*
          Fruit yellow, small; petals narrow 9. S. SURATTENSE.

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2. **S. læve** Dunal.

Gamble, Fl. Madr. p. 934, separates *S. læve* (including *S. bigeminatum*) and *S. biflorum* (*S. denticulatum* Blume) as follows:

Calyx glabrous or nearly so, entire, or with reflexed protuberances outside the margin or with 5 subulate teeth saucer-shaped in fruit; branchlets usually quadrangular, often zigzag; leaves membraneous, elliptic-lanceolate, long-acuminate, up to 9 in. long, 3 in. broad, slightly setose above or glabrous; berries yellow or red . . . . . . . . . *S. læve.*

Calyx pilose with 5–10 short teeth, which are usually reflexed in fruit; branchlets usually round sometimes zigzag; leaves membraneous, very pilose when young, sparsely so when old, often with a few prominent acute teeth on the upper half; berries red . . . *S. biflorum.*

Wight Ic. t. 1397 is *S. denticulatum* in Gamble's sense. These differences do not appear to be sufficiently consistent in Ceylon to separate the species, which should probably be called *S. biflorum.*

4a. S. AURICULATUM Ait. Hort. Kew, ed. 1, I, p. 246 (1789).

A large shrub, about 5 ft. high, densely covered with stellate hairs; leaf lamina 5–8 in. long, elliptic-lanceolate, acuminate, velvety above, tomentose with stellate hairs beneath; petiole up to 1 in. long; fls. in large corymbose cymes; berry $\frac{1}{4}$ in. covered with stellate hairs, yellow.

Low country, rather common. Fl. purple.
A native of Tropical Asia, according to the Index Kewensis, but it is not mentioned in the Fl. Brit. Ind.

*Page* 234.—For *S. ciliatum* Lam. read:

6a. S. ACULEATISSIMUM Jacq. Collect. I, p. 100 (1786); Clarke in Fl. Ind. IV, p. 237 (1883); Gamble Fl. Madr. p. 939 (1923). *S. ciliatum* Lamk. III, II, p. 21 (1793).

Perennial herb, about $1\frac{1}{2}$ ft. high; stem with numerous prickles; leaf lamina 3–4 in. long ovate, lobed, prickly; petiole $1\frac{1}{2}$–3 in. long; fls. in 1–2 fld. cymes; cal. prickly; berry about $1\frac{1}{2}$ in. diam., at first green with white blotches finally red.

A common weed by roadsides and in waste places up to 4000 ft. Peradeniya (1887); Hakgala (1906); Maturata (1906). Fl. Feb., May, Sept.; white.
Tropical Asia, Africa and America. Native of Brazil according to Trimen, of Malaya according to Gamble.

7. **S. torvum** Sw. **Gona-batu,** *S.*

7a. S. HISPIDUM Pers. Syn. I, p. 278 (1805).

An erect perennial, about 8 ft. high; stem with scattered thorns; l. about 8 in. long, shallowly lobed, thickly covered with ferrugineous stellate hairs beneath; fls. in many-fld. cymes, white; fruit glabrous.

Hakgala, escape by the roadside (1926). Fls. May.
Native of Peru.

S. ATROPURPUREUM Schrank in Syll. Ratisb. I, p. 200 (1824).
Without exact locality, Oct. 1912 (W. Molegode).
Native of Brazil.

*Page* 235.—For *S. xanthocarpum* Schrad. & Wendl. read:

9. **S. surattense** Burm. f. Fl. Ind. p. 57 (1768); Merr. in Phil. Journ. Sc. XIX, p. 377 (1921). *S. xanthocarpum* Schrad. & Wendl. Sert. I, p. 8 (1795).

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## 2. PHYSALIS *Linn.*

Anthers yellow; corolla under ¼ in., unspotted; annual P. MINIMA.
Anthers violet; corolla ½ in., spotted; perennial . . *P. peruviana.*

P. PERUVIANA Linn. Sp. Pl., ed. 2, p. 1670 (1762); Clarke in Fl. Brit. Ind. IV, p. 238 (1885). *P. edulis* Sims Bot. Mag. t. 1068 (1807). *Alkekengi pubescens* Moench. Meth. Suppl. p. 473 (1802).
A casual in waste places. Jaffna; Batticaloa; Haputale.
Native of Tropical America.

P. ANGULATA Linn. Sp. Pl. p. 183 (1753); Clarke in Fl. Brit. Ind. IV, p. 238 (1885).

This is a similar plant to *P. peruviana* Linn. but has glabrous leaves and an unspotted corolla. C. P. 1898, quoted by Trimen, is *P. peruviana* Linn., so that the record rests on Fl. Zeyl. no. 97. Clarke states that "The true *P. angulata* Linn. occurs only cultivated in India."

*P. Hermanni* Dunal. had a spotted corolla unlike typical *P. minima.* Clarke calls the glabrescent form, of *P. minima,* var. *indica.*

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## 4. DATURA *Linn.*

Fls. erect:
Capsule irregularly dehiscent . . . . D. FASTUOSA.
Capsule 4-valved . . . . . . . . *D. Stramonium.*
Fls. pendulous . . . . . . . . *D. suaveolens.*

**D. fastuosa** Linn.
Gamble Fl. Madr. p. 940 separates this from *D. Metel* Linn. as follows:

Capsule covered with short spines or blunt tubercles; flowers white or white with purple outside; leaves ovate, acute, entire or coarsely toothed, with acute lobes, base very unequal-sided, up to 8 in. long, nearly glabrous . . . . . . . . . . . *fastuosa.*
Capsule covered with long slender spines; flowers white tinged with green; the fruiting calyx very large; leaves ovate-lanceolate, acute, base very unequal, up to about 4 in. long or more, minutely grey-tomentose . . . *Metel.*

Wight Ic. t. 1396 which is referred by Gamble to *D. fastuosa* has the long spines and white flowers of *D. Metel.*
Clarke, Fl. Brit. Ind. p. 243, suggests that *D. Metel* is only naturalised in the Old World.
Wright, in Fl. Trop. Afr. IV, 2, p. 286, states that the corolla of *D. Metel* is 10-toothed and that of *D. fastuosa* 5–6-toothed. Sims's figure in the Bot. Mag. t. 1440 from a Surinam specimen is 5-toothed but Sims suggests that the Old and New World plants may be distinct.
Boldingh, Flora voor de Nederlandsch West-Indische eilanden, states that the spines on the fruit of *D. Metel* are 1 cm. or more long.

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## XCII.—SCROPHULARIACEÆ.

| | |
|---|---|
| Two upper lobes of cor. outside in bud : | |
| Stam. 5 . . . . . . . . . | 1a. *Verbascum.* |
| Stam. 4 or stam. 2 staminodes 2 : | |
| L. alt. . . . . . . . . . | 1. CELSIA. |
| L. opp. or whorled : | |
| Cor. spurred . . . . . . | *Linaria.* |
| Cor. not spurred : | |
| Sep. connate into a tubular cal. : | |
| Plants erect ; l. mostly radical . . | 5. DOPATRIUM. |
| Plants creeping ; l. cauline . . . | 7. TORENIA. |
| Sep. distinct : | |
| Stamens all inserted on the cor.-tube : | |
| Sep. unequal : | |
| Upper sepal largest . . . | 2. ADENOSMA. |
| Three outer sepals larger than the other 2 . . . . . | 4. BACOPA. |
| Sep. subequal : | |
| Terrestrial weed . . . . | 2a. *Stemodia.* |
| Aquatics . . . . . | 3. *Limnophila.* |
| Upper stamens inserted on the corolla-tube, lower inserted at throat : | |
| Anth.-cells confluent ; fls. large . | 5. ARTANEMA. |
| Anth.-cells distinct ; fls. small. . | 8. LINDERNIA. |
| Stamens 2 : | |
| Cal. 5-lobed : | |
| Anth.-cells confluent ; l. linear . . . | 11. MICROCARPÆA. |
| Anth. 1-celled ; l. spathulate . . . | 12. PEPLIDIUM. |
| Cal. 3–4-lobed : | |
| Fls. pink ; corolla lobes unequal . . | *Glossostigma.* |
| Fls. yellow ; corolla lobes 2-lipped . . | 1b. *Calceolaria.* |
| Two upper lobes of cor. inside in bud : | |
| Stam. 2 . . . . . . . . . | 12b. VERONICA. |
| Stam. 4 : | |
| Corolla lobes flat, spreading, 4, white . . | 12a. *Scoparia.* |
| Corolla-tube elongate : | |
| Cal. tubular : | |
| Anth. 1-celled : | |
| Cor.-tube curved . . . . . | 13. STRIGA. |
| Cor.-tube straight . . . . | *Buchnera.* |
| Anth. 2-celled . . . . . . | 14. SOPUBIA. |
| Cal. spathaceous : | |
| Cor.-lobes nearly equal . . . . | 15. RAZUMOVIA. |
| Cor.-lobes strongly 2-lipped . . | 16. PEDICULARIS. |

### 1a. VERBASCUM *Linn.*

Biennial or perennial herbs; leaves alternate; infl. terminal, spicate or racemose; calyx-lobes 5, imbricate; cor.-lobes 5, spreading, the 2 upper lobes outside in bud; stam. epipetal-

ous, filaments of the upper 3 bearded; anth.-cells confluent, style dilated at apex; capsule 2-valved, septicidally dehiscent. —Sp. 160; N. Temperate.

V. THAPSUS Linn. Sp. Pl. p. 177 (1753).

An erect herb; stem. about 5 ft. high, simple; leaves up to 15 in. long, obovate-lanceolate, auriculate or decurrent at base, tomentose with stellate hairs on both surfaces, especially the lower surface, entire or irregularly crenate; infl. about 1½ ft. long, simple; cal.-segments densely tomentose; corolla 0·6 in. diam.

Rather common about Hakgala and Nuvara Eliya. Fl. Oct.; yellow.
A native of Europe and N. Asia.

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1b. CALCEOLARIA *Linn.*

Herbs or shrubs; leaves opposite or whorled; calyx-lobes 4, valvate, united at base; corolla-tube very short; limb of corolla 2-tipped, lobes entire, concave; stamens 2, epipetalous; anth.-cells usually distinct; style filiform; capsule septicidally dehiscent.—Sp. 120; natives of America and N. Zealand.

C. CHELIDONIOIDES H. B. K. Nov. Gen. & Sp. II, p. 378 (1818).

An erect annual herb; stem up to 1 ft., glandular pubescent; leaves 1 in. long, ovate in outline, irregularly toothed and pinnatifid, glandular-pubescent, opposite; fls. solitary, axillary, on pedicels ½–1¼ in. long; calyx pubescent; cap. ovoid, 4-valved.

Upper montane zone; common. Fls. Apr.
A native of Ecuador.
*C. mexicana* Benth. is recorded from India by Hooker.

**Adenosma subrepens** Benth.
Also in India.
Doubtfully distinct from *A. javanicum* Koord.

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2a. STEMODIA *Linn.*

Herbs; leaves opposite or whorled; fls. solitary and axillary or in terminal spikes; cal.-segm. 5, subequal, imbricate; corolla tubular, shortly 2-lipped; upper lip outside in bud, entire or 2-lobed; lower lip 3-lobed; stamens 4, didynamous, included; anth.-cells distinct; style dilated at apex, usually 2-lobed; capsule 2–4-valved, loculicidal or rarely septicidal.—Sp. 30; 2 in *Fl. Brit. Ind.*

For *Stemodia parviflora* Ait. read:

S. VERTICILLATA Sprague in Kew Bull. p. 211 (1921). *S. parviflora* Ait. Hort. Kew, ed. 2, p. 52 (1810). *Erinus verticillatus* Mill. Gard. Dict., ed. 8, no. 5 (1768).

An annual herb under 6 in. high, diffuse; leaves ovate, crenate serrate, sparsely pubescent; lamina $\frac{1}{4}$–$\frac{3}{4}$ in. long; petiole about $\frac{1}{4}$ in. long; upper leaves in whorls of 3, lower opposite; fls. solitary, axillary, shortly stalked; sep. linear; cap. subglobose, 4-valved.

A common weed in the Peradeniya Gardens; also about Dolosagie. Fl. Aug., Sept., Dec.

A native of Tropical America.

*Page* 243.—For *Limnophila gratissima* Bl. read:

2. **L. aromatica** Merr. Interp. Rumph. p. 466 (1917). *Ambulia aromatica* Lamk. Encycl. I, p. 128 (1783). *L. gratissima* Blume, Bijdr. p. 750 (1826).

*Page* 244.—For *L. hirsuta* Benth. read:

3. **L. chinensis** Merr. Interp. Rumph. p. 47 (1917). *Columnea chinensis* Osbeck, Dagbok, Ostind. Resa. p. 230 (1757). *L. hirsuta* Benth. in DC. Prodr. X, p. 388 (1846). *Stemodia hirsuta* Heyne, in Wall. Cat. no. 3930 (1829.)

*Page* 245.—For *L. racemosa* Benth. read:

6. **L. aquatica** (Roxb.) comb. nov. *Cyrilla aquatica* Roxb. Cor. Pl. II, p. 49 (1798). *L. racemosa* Benth. Scroph. Ind. p. 26 (1835).

Moon gives the Sinhalese name " Raewul-puruk-wila."

Also in India and Java.

*Page* 245.—For *L. gratioloides* Br. read:

7. **L. indica** Druce in Rep. Bot. Exch. Cl. 1913, p. 420 (1914). *Hottonia indica* Linn. Syst. Nat., ed. 10, p. 919 (1759). *L. gratioloides* R. Br. Prodr. p. 442 (1810). *Ambulia indica* W. F. Wt. ex Saff. in Contr. U.S. Nat. Herb. IX, p. 181 (1805).

Near Horopatana.

*Page* 246.—For *Herpestis* Gaertn. f. read:

4. **BACOPA** *Aubl.*

*Bacopa Aubl.* is one of the *nomina conservanda* of the International Rules of Botanical Nomenclature, *Moniera* P. Br. and *Brami* Adans. are *nomina rejicienda.*

1. **Bacopa Monniera** Wettst. in Engl. u. Prantl. Nat. Pfl. IV, 3b. p. 77 (1891). *Gratiola Monniera* Linn. Cent. Pl. II, no. 120 (1756). *Bramia indica* Lamk. Encycl. I, p. 459 (1783). *Moniera cuneifolia* Michx. Fl. Bor. Am. II, p. 22 (1803); Gamble Fl. Madr. p. 953 (1923).

For *Herpestis floribunda* Br. read:

2. **Bacopa floribunda** Wettst. in Engl. u. Prantl. Nat. Pfl. IV, 3b, p. 77 (1891). *Herpestis floribunda* R. Br. Prodr. p. 442 (1810).

*Bramia floribunda* F. Muell. Fragm. IX, p. 167 (1875). *Moniera floribunda* T. Cooke Fl. Bombay II, p. 286 (1908); Gamble Fl. Madr. p. 953 (1923).

*Page* 248.—For *Artanema sesamoides* Benth. read:

**A. longifolia** Vatke in Linnæa XLIII, p. 307; Bot. Mag. t. 8687 (1916). *Columnea longifolia* Linn. Mant. p. 90 (1767). *Achimenes sesamoides* Vahl. Symb. II, p. 71 (1791). *Artanema sesamoides* Benth. Scroph. Ind. p. 39 (1835).

## 7. TORENIA *Linn.*

Corolla dark blue, the tube nearly twice as long as the calyx:
- Tube white; flowers large . . . . . 1. T. LEUCOSIPHON.
- Tube dark blue; flowers medium-sized . . 2. T. CYANEA.

Corolla pale blue:
- Corolla tube equalling the calyx; fls. small . 3. T. ÆRINEA.
- Corolla tube exceeding the calyx; fls. minute 4. T. CRUSTACEA.

For *Torenia asiatica* Linn. read:

1. **T. leucosiphon** nom. nov.* *T. asiatica* var. *parviflora* Hk. f. in Fl. Brit. Ind. IV, p. 277 (1885). *T. asiatica* Trim. Fl. Ceyl. III, p. 249 (1895) non Linn.

Low country; rather rare; Vellakanda Forest, Panilla; Bambarabotuva, Pasdun Korale. Fl. June, Dec.
Endemic.

2. **T. cyanea** nom. nov.† *T. asiatica* Thw. Enum. p. 219 (1860) non Linn. *T. hirtella* Trim. Fl. Ceyl. III, p. 249 (1895) pp. non Hk. f.

Stems creeping, glabrous, with a few straggling branches; leaves $\frac{3}{4}$–1$\frac{1}{2}$ in. long, subcordate at base, deltoid-lanceolate, coarsely serrate, glabrous above, sparsely hairy on the veins below; petiole up to $\frac{1}{2}$ in. long; fl. on pedicels about 1 in. long, deflexed in fruit; cal. about $\frac{1}{2}$ in., glabrous, tube winged; cor. dark blue.

Moist low country up to 5000 ft. in boggy places, common.
Endemic.

For *T. hirtella* Hk. f. read:

3. **T. ærinea** nom. nov.‡ *T. hirtella* Hk. f. in Fl. Brit. Ind. IV, p. 277 (1884) pp. non *T. rubens* var. *hirtella* Benth.
Endemic.

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* *T. asiaticæ* affinis, sed corollæ tubo albo differt.—*W. de Alwis* icon. ined., and Vellankande Forest, *Trimen*.

† *T. asiaticæ* affinis, sed floribus minoribus differt.—Typus: Rangala, *Alston* 901.

‡ *T. cyaneæ* affinis, sed floribus minoribus pallidis differt.—Typus: Nuvara Eliya, *Gardner*.

For *Vandellia crustacea* Benth. read:

4. **Torenia crustacea** Cham. & Schl. in Linnæa II, p. 570 (1827). *Capraria crustacea* Linn. Mant. p. 87 (1767). *Vandellia crustacea* Benth. Scroph. Ind. p. 35 (1835). *Lindernia crustacea* F. Muell. Census p. 97 (1882).

*Page* 250.—For *Vandellia* Linn., *Ilysanthes* Raf. and *Bonnaya* Link. & Otto read:

8. **LINDERNIA** *All.*

Haines Bot. of Bihar. and Orissa p. 630 (1922) points out that presence or absence of staminodes is not a constant character and he therefore separates the three genera into:

1. Leaves with a single midrib or penninerved—*Vandellia* (including *Bonnaya*).

2. Leaves 3–5-nerved from the base—*Lindernia* (including *Ilysanthes* and *Vandellia erecta*).

Gamble Fl. Madr. p. 958 (1923) divides them as follows:

Stamens 4, all perfect . . . . . . . . *Vandellia.*
Two upper stamens only perfect, the lower pair reduced to staminodes . . . . . . . . *Ilysanthes.*

As neither arrangement seems satisfactory all three genera are here placed under *Lindernia.*

For *Vandellia hirsuta* Ham. read:

1. **Lindernia viscosa** (Rchb.). *Tittmannia viscosa* Rchb. Ic. Exot. I, p. 26 t. 38 (1824). *Vandellia hirsuta* Ham. in Scroph. Ind. p. 36 (1836). *Hornemannia prostrata* Jacq. Ecl. t. 150 (1844).

*Page* 251.—For *Vandellia scabra* Benth. read:

2. **Lindernia pusilla** Merr. in Phil. Journ. Sc. Bot. XI, p. 312 (1916). *Gratiola pusilla* Willd. Sp. Pl. I, p. 105 (1798). *Vandellia scabra* Benth. Scroph. Ind. p. 36 (1835). *Selago pusilla* Thunb. Prodr. Fl. Cap. p. 99 (1813).

For *Vandellia pedunculata* Benth. read:

3. **Lindernia cordifolia** (Colsm.). *Gratiola cordifolia* Colsm. Prodr. Descr. Grat. p. 15 (1793); Vahl Enum. I, p. 97 (1805). *Vandellia cordifolia* G. Don. Gen. Syst. IV, p. 549 (1837). *V. pedunculata* Benth. Scroph. Ind. p. 37 (1835).

Bentham states that this is scarcely distinguishable from *Bonnaya grandiflora* Spreng. (*B. veronicæfolia* Spreng.).

For *Vandellia angustifolia* Benth, read:

4. **Lindernia angustifolia** Wettst. in Engl. u. Prantl. Nat. Pfl. IV, 3b. p. 73 (1891). ?*L. micrantha* D. Don. Prodr. p. 85 (1825). *Vandellia angustifolia* Benth. Scroph. Ind. p. 37 (1835).

Haines Bot. Bih. and Or. includes this under his *Vandellia verbenæfolia* (*Bonnaya verbenæfolia* Spreng.).

*Page* 252.—For *Ilysanthes hyssopioides* Benth. read:

5. **Lindernia hyssopioides** Haines, Bot. Bih. and Or. p. 635 (1922). *Gratiola hyssopioides* Linn. Mant. p. 174 (1767). *Ilysanthes hyssopioides* Benth. in DC. Prodr. X, p. 419 (1846).

For *Ilysanthes rotundifolia* Benth. read:

6. **Lindernia rotundifolia** (Linn.). *Gratiola rotundifolia* Linn. Mant. p. 174 (1767). *Ilysanthes rotundifolia* Benth. in DC. Prodr. X, p. 420 (1846).

For "rare" read "common" and add localities Ambevela; Kalutara.

*Page* 253.—For *Bonnaya brachiata* Link. & Otto read:

7. **Lindernia serrata** F. Muell. Census p. 97 (1882). *Gratiola serrata* Roxb. Fl. Ind. I, p. 139 (1820). *Bonnaya brachiata* Link. & Otto, Ic. Select I, p. 25 (1820). *Ilysanthes serrata* Urb. in Ber. Deutsch. Bot. Ges. II, p. 436 (1884); Gamble Fl. Madr. p. 962 (1923). *Vandellia brachiata* Haines, Bot. Bih. and Or. p. 632 (1922).

For *Bonnaya veronicæfolia* Spreng. read:

8. **Lindernia antipoda** (Linn.). *Ruellia antipoda* Linn. Sp. Pl. p. 635 (1753). *R. anagallis* Burm. f. Fl. Ind. p. 135 (1768). *Gratiola veronicæfolia* Urb. in Ber. Deutsch. Bot. Ges. II, p. 436 (1884); Gamble Fl. Madr. p. 962 (1923). *Bonnaya antipoda* Druce in Rep. Bot. Excl. Cl. 1913, p. 415 (1914). *Vandellia veronicæfolia* Haines Bot. Bih. and Or. p. 633 (1922).

*Bonnaya verbenæfolia* Spreng., which is given as a synonym of this species by most authors, is referred to *Vandellia angustifolia* Benth. by Haines.

Blatter & Hallberg, in Journ. Bomb. N.H.S. XXV, p. 418 (1918) separate *B. veronicæfolia* (Roxb. Cor. Pl. II, t. 154), *B. grandiflora* (Roxb. t. 179) and *B. verbenæfolia* (Wt. Ic. t. 144). The Ceylon specimens are mostly *B. veronicæfolia;* there are however possible specimens of *B. grandiflora* from Caltura and "Jaffna and Batticaloa." The former may however be *L. angustifolia* and the latter dwarfed *L. antipoda*. These authors characterise *Ilysanthes* by the bilobed staminodes.

*Page* 254.—For *Bonnaya tenuifolia* Spreng. read:—

9. **Lindernia tenuifolia** (Vahl). *Gratiola tenuifolia* Vahl Enum. I, p. 96 (1805). *Bonnaya tenuifolia* Spreng. Syst. I, p. 42 (1825). *Ilysanthes tenuifolia* Urb. in Ber. Deutsch. Bot. Ges. II, p. 435 (1884); Gamble, Fl. Madr. p. 962 (1923). *Vandellia tenuifolia* Haines, Bot. Bih. and Or. p. 634 (1922).

For *Microcarpæa muscosa* Br. read:

**M. minima** Merr. in Phil. Journ. Sc. Bot. VIII, p. 100 (1912). *Pæderota minima* Koen. in Retz. Obs. V, p. 10 (1789). *Microcarpæa muscosa* R. Br. Prodr. p. 436 (1810).

*Page* 255.—For *Peplidium humifusum* Del. read:

**P. maritimum** Wettst. in Engl. u. Prantl. Nat. Pfl. IV, 3b. p. 78

(1891); Gamble Fl. Madr., p. 963 (1924). *Hedyotis maritima* Linn. f. Suppl. Pl., p. 119 (1781). *Peplidium humifusum* Del. Fl. Ægypt. p. 148 (1813).

### 12a. SCOPARIA *Linn.*

Herbs or shrubs; leaves opposite or whorled; fls. axillary, usually in pairs; calyx 4–5-lobed, lobes imbricate; corolla lobes 4, subequal, spreading, densely bearded at base; stam. 4, subequal; anth.-cells 2; style clavate; capsule septicidal.—Sp. 6; Tropical America.

S. DULCIS Linn. Sp. Pl. p. 116 (1753).

An erect, annual herb; stem up to $1\frac{1}{2}$ ft. high, ridged, glabrous; leaves whorled, ovate to lanceolate, lamina decurrent into the petiole, deeply crenate-serrate; fls. in axillary fascicles; pedicels slender, about $\frac{1}{4}$ in. long; sep. ovate; pet. broadly obovate, rounded at apex; cap. subglobose.

A common weed in the low moist region. Fls. Feb.
A native of Tropical America.

### 12b. **VERONICA** *Linn.*

Erect or prostrate herbs or shrubs; l. opposite or alternate; fls. in terminal or axillary racemes or solitary and axillary, with bracts but no bracteoles; cal. with 4 segments, the adaxial segment wanting; cor-tube very short; corolla salver-shaped, lobes 4, the adaxial lobe consisting morphologically of two lobes united; stam. 2, exserted, epipetalous; stigma simple; capsule compressed.—Sp. 160; 18 in *Fl. Brit. Ind.*

Erect herb; fls. in axillary racemes; leaves crenate-serrate . . . . . . . . V. JAVANICA.
Prostrate herbs :
Fls. in terminal racemes . . . . . . *V. serpyllifolia.*
Fls. axillary . . . . . . . . *V. didyma.*

**V. javanica** Blume Bijdr. p. 742 (1826); Hk. f. in Fl. Brit. Ind. IV, p. 296 (1885).

An erect herb; roots fibrous; stem about 6 in., sparingly branched (in the Ceylon specimen), pubescent; l. about $\frac{1}{2}$ in. long, ovate, coarsely crenate-serrate, subsessile; pubescent; flowers shortly stalked in axillary racemes; cal.-segments linear-oblong, exceeding the capsule; capsule obcordate, flattened.

Upper montane zone; in the jungle; rather rare. Single Tree Hill, Nuvara Eliya; Hakgala. Fl. Dec.
Also in E. Africa, India, Siam, Tonkin, Java, and Luchu Is.

V. SERPYLLIFOLIA Linn. Sp. Pl., p. 12 (1753); Hk. f. in Fl. Brit. Ind. IV, p. 296 (1885); Petch in Ann. Perad. VI, p. 71 (1915).

A prostrate, perennial herb: l. ovate-elliptic, obtuse, shallowly crenate; lamina about ¼ in. long, glabrous; fls. shortly stalked, in leafy terminal racemes; cal.-segments oblong, equalling the capsule; capsule broadly obcordate.

Upper montane zone; naturalised. Nuvara Eliya (1915); Hakgala (1920). Fl. Apr., June; lilac.

Also in the Himalaya, Europe, N. Asia and Africa, N. & S. America.

For *V. polita* Fries read:

V. DIDYMA Tenore Prodr. Fl. Nap. p. 6 (1817); Ind. Kew p. 1189 (1895). *V. polita* Fries, Novit, Fl. Suec., ed. 2, p. 1 (1828). *V. agrestis* Hk. f. in Fl. Brit. Ind. IV, p. 294 (1885) pp.

Nuvara Eliya (1880), Trimen.

Native of the N. Temperate regions.

*Page* 255.—For *Striga orobanchoides* Benth. read:

1. **S. gesneroides** Vatke. ex Engl. in Abh. Preuss. Akad Wiss. p. 28 (1894). *Buchnera gesneroides* Willd. Sp. Pl. III, p. 338 (1800). *B. orobanchoides* Br. in Salt. Abbyss. App. p. (1814).

Gamble Fl. Madr. p. 967 (1924) states that *S. orobanchoides* Benth. (*S. gesneroides* Vatke) is a reddish-brown plant with a pink corolla, while *S. densiflora* Benth. is green with a white corolla.

Trimen, Journ. Bot. XXXIII, p. 172, is apparently correct in stating that "The plant is pale green, and the flowers white, becoming pale violet when withering."

Van Buuren, Poona Agric. Coll. Reprints I, pp. 7–9 (1915), gives the following host plants: *Lepidagathis cristata, L. trinervius, Hygrophila* sp., *Dysophylla quadrifolia,* bajri (*Pennisetum spicatum*), jowari (*Sorghum vulgare*), rushes, *Sanseviera* sp., *Indigofera* sp., *Dalbergia* sp., *Balsamea* sp., *Cissus quadrangularis,* etc.

*Page* 256.—

2. **S. lutea** Lour.

Van Buuren l. c. pp. 3–5 and 6 gives the following host plants: sugar-cane, jowari (*Sorghum vulgare*), maize, bajri (*Pennisetum spicatum*), Hill millet (*Panicum miliaceum?*), *Eragrostis,* sp., Hill paddy.

For *S. euphrasioides* Benth. read:

3. **S. asiatica** O. Ktze. Rev. Gen. p. 466 (1891). *Buchnera asiatica* Linn. Sp. Pl. p. 630 (1753). *B. euphrasioides* Vahl Symb. III, p. 81 (1794). *Striga euphrasioides* Benth. in Hk. Comp. Bot. Mag. I, p. 364 (1835).

Van Buuren l. c. pp. 6–7 gives sugar-cane as the host plant.

Ceylon was apparently Linnæus's type locality and there is a specimen of this plant in his Herbarium. He states that the corolla was purple, which can be accounted for, when the following remark of Van Buuren (l. c. p. 7) is considered: "At the approach of the dry season, some plants (of *S. asiatica*) which I had under observation showed a sensitiveness to drought. The leaves took on a purplish-red tinge whilst even the corolla had many fine streaks of the same colour."

It is possible that we have 3 allied species included under this name.

1. Thwaites's var. *β* which seems to be *S. euphrasioides* of Bentham's description but not *Buchnera euphrasioides* Vahl.
Corolla tube hairy; calyx ribs glandular.

2. ?*S. glabrata* Benth. *Buchnera euphrasioides* Vahl.
Corolla tube glabrous; calyx ribs pubescent.
Bentham, in Hk. f. Comp. Bot. Mag. I, p. 364 (1835), states that "The flowers (of *S. glabrata*) are said to be bluish;" this colour was probably due to bruising, for Trimen, Journ. Bot. XXIII, p. 172 says of *S. orobanchoides*: "All parts of the plant become stained inky blue if bruised or on long exposure after gathering."

Buchnera hispida Ham.
This species has been found in India, Trop. Africa and Madagascar and might therefore be expected to occur in Ceylon.

*Page* 257.—

1. **Sopubia delphinifolia** G. Don.
Van Buuren l. c. pp. 10–11 states that this species is parasitic on grasses and jowari (*Sorghum vulgare*).

For *Centranthera* Br. read:

15. **RAZUMOVIA** *Spreng.*

*Page* 258.—For *Centranthera procumbens* Benth. read:

1. **Razumovia indica** (Linn.). *Rhinanthus indica* Linn. Sp. Pl. p. 603 (1753). *Centranthera procumbens* Benth. on DC. Prodr. X, p. 525 (1846); Petch in Ann. Perad. VI, p. 69 (1915). *C. indica* Gamble Fl. Madr. p. 971 (1924).
Petch, l. c., states that the seeds are not spirally striate.

For *Centranthera hispida* R. Br. read:

2. **Razumovia hispida** Britten, in Journ. Bot. XXXIX, p. 69 (1901). *C. hispida* R. Br. Prodr. p. 438 (1810).
Van Buuren, l. c. p. 11, states that this species is parasitic on grasses.

*Page* 259.—For *Centranthera humifusa* Wall. read:

3. **Razumovia lepidota** (Roth.). *Torenia lepidota* Roth. Nov Sp. p. 281 (1821). *Centranthera humifusa* Wall. Cat. no. 3883 (1829); Benth. in DC. Prodr. X, p. 535 (1846).

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*Page* 260.—

## XCIII.—OROBANCHACEÆ.

Livera, in Ann. Perad. X, pp. 145–159 (1927), has published a revision of this family, but as Petch, in Ann. Perad. XI, pp. 269–275 (1930), differs from him in many points I do not think that all his conclusions can be accepted without re-examination of fresh material.*

1. **A. indica** Linn.; Liv. l. c. p. 154.

* This paper has been further criticised by Beck von Managetta in Engler's Pflanzenreich.

*Page* 261.—

2. **Æginetia pedunculata** Wall:
Livera Ann. Perad. X, 149 (1927) separates the Ceylon plant as *A. Trimenii* Liv. but apparently on insufficient grounds. His fibrous roots appear to belong to the host plant. He also separates *A. acaulis* Walp. stating only that it "differs abundantly", if it should prove to be the same as *A. pedunculata* Walp. our plant would have to take the name *A. acaulis* Walp.

*Page* 262.—For *Christisonia subacaulis* Gardn. read:

3. **Æginetia subacaulis** Livera in Ann. Perad. X, p. 155 (1927). *Phelipæa subacaulis* Benth. Scroph. Ind. p. 55 (1835). *Campbellia subacaulis* Benth. in Gen. Pl. II, p. 967 (1876). *Christisonia subacaulis* Gardn. in Calc. Journ. Nat. Hist. VIII, p. 162 (1847).

The flowers of this species are surrounded by a curious, jelly-like substance.

*Page* 263.—

2. **Christisonia Thwaitesii** Trim.; Liv. l. c. p. 156. ?*Cliffordia zeylanica* Liv. l. c. pp. fide Petch in Ann. Perad. XI, p. 274 (1930).
Petch (l. c.) notes that the roots are wiry and not coralloid as stated by Livera.

4. **C. bicolor** Gardn. *Cliffordia bicolor* Liv. l. c. p. 157.
Var. **spectabilis** Trim. *Cliffordia spictabilis* Liv. l. c.

For *C. albida* Thw. read:

1. **Campbellia auratiaca** Wight Ic. t. 1424 (1850); Petch in Ann Bot. XXXVIII, pp. 679–698 (1924); in Ann. Perad. XI, p. 270 (1930). *Legocia aurantiaca* Liv. l. c. p. 158. ?*Cliffordia zeylanica* Liv. l. c. p. 157 pp.; Petch in Ann. Perad. (1928).

*Page* 265.—

2. **Campbellia cytinoides** Wight; Liv. l. c. p. 158; Petch in Ann. Perad. XI, p. 271 (1930). *Christisonia unicolor* Gardn.; Petch in Ann. Perad. XI, p. 274 (1930). *Cliffordia unicolor* Liv. l. c. p. 157. ?*Cliffordia zeylanica* Liv. l. c. p. 157 pp. fide Petch l. c.
The anthers of *Christisonia unicolor* Gardn. are exserted and not as markedly didynamous as in *C. aurantiaca* Wight. The species should be searched for on Hunasgiriya as Gardner's name is older than Wight's.

*Page* 268.—

4. **Utricularia cœrulea** Linn.:
Haines, Bot. B. & O. p. 645 (1922), and Gamble, Fl. Madr. p. 981 (1924), call this *U. graminifolia* Vahl and transfer the name *U. cœrulea* Linn. to *U. nivea.*
Linnæus's type was the Ceylon plant which was presumably seen by Trimen. Linnæus also cited Hort. Mal. IX, t. 70, which is *U. reticulata* Sm.
A white flowered variety of this species occurs at Rangala; there is also a darker blue variety, which is common above 3000 ft. and may be *U. affinis* Wight.

**Part III.**

*Page* 269.—

5. **U. affinis** Wight.

This is called *U. uliginosa* Vahl by Gamble, Fl. Madr. p. 981 (1924), he separates it from *U. cœrulea* (*U. graminifolia*) as follows:

Scapes slender, simple, 2–6 in. high, 3–6-flowered; sepals ovate, acute; corolla small with obovate upper and orbicular entire lower lip, the latter ·2–·3 in. broad with straight conical spur slightly curved forwards; seeds subglobose, the testa with subhexagonal scrobiculate areoles . . . . *uliginosa* (*affinis*).

Scapes slender, sometimes slightly twining, short, 4–6 in. long, rarely longer; the scales few and distant, lanceolate; spur narrowly-conic, curved; calyx lobes ovate acuminate; corolla with obovate upper and broadly ovate reticulate lower lip; seeds reticulate with elongate areoles . . . . *cœrulea* (*graminifolia*).

The most important characters appear to be: *U. uliginosa* (1) lower lip of corolla orbicular, entire, (2) spur "straight conical slightly curved," (3) seeds "subglobose, the testa with subhexagonal scrobiculate areoles."

*U. cœrulea* (1) lower lip of corolla ovate, (2) spur curved, (3) seeds reticulate with elongate areoles.

But these characters do not appear to be constantly associated. *e.g.* Wight Ic. t. 1578 p. 1 has an acuminate lower lip and hexagonal areoles and is referred to *U. uliginosa* by Gamble, the same applies to t. 1580 1 t. 1578 2. has an emarginate lip and hexagonal areoles. t. 1575 has elongate areoles and an emarginate and acuminate lip. t. 1573 has elongate areoles and an obtuse tip.

The common Ceylon plant has an entire lip and slightly curved spur. Ceylon *U. affinis* does not appear to be specifically distant.

6. **U. reticulata** Sm.

Delgoda; Hiyare, Galle.

Var. *stricticaulis* Koenig is separated as a species (*U. stricticaulis* Stapf) by Gamble, Fl. Madr. p. 981 (1924), but if, as seems scarcely likely, it should prove to be a good species it should surely take the name *U. polygonoides* Edgw.

Also in S. India.

*Page* 270.—For *U. nivea* Vahl read:

Spur longer than the lower lip of the corolla, directed forwards . . . . . 9. U. NIVEA.

Spur shorter than the lower lip of the corolla, directed downwards . . . 9a. U. ROSEO-PURPUREA.

9. **U. nivea** Vahl.

*U. obtusiloba* Benj., in Linnæa XX, p. 312 (1847), from Ceylon, may be this species or the next.

9a. **U. roseo-purpurea** Stapf ex Gamble Fl. Madr. p. 983 (1924). *U. racemosa* var. *rosea* Thw. Enum. p. 172 (1860). *U. nivea* var. *rosea* Trim. Fl. Ceyl. III, p. 270 (1895). *U. rosea* Clarke in Fl. Brit. Ind. IV, p. 33 (1885) non Oliv.

Stem and leaves fugacious; flowering stems 4–10 in., robust, erect, occasionally branched; scales of the scape produced backwards below their point of insertion and acuminate at both ends; fls. 3–6, on the upper half of the scape; pedicels short, slender; bracts similar to the scales; sep. ovate-oblong, obtuse, glabrous; spur of corolla shorter than the lower lip, directed downwards.

Montane zone; rather common. Nuvara Eliya; Ramboda; Horton Plains; Pidurutalagala and Pasdun Korale.
Also in S. India.

*Page* 271.—For *Utricularia orbiculata* Wall. read:

10. **U. striatula** Sm. on Rees, Cycl. XXXVII, no. 17 (1817); Gamble. Fl. Madr. p. 983 (1924). *U. orbiculata* Wall. Cat. no. 1500 (1828); A. DC. Prodr. VIII, p. 18 (1844).

*Page* 272.—

**Æschynanthus zeylanica** Gardn.
Endemic? Var. β is given for the Nilghiris in the Fl. Brit. Ind. but omitted by Gamble, Fl. Madr. p. 985, it was based on 3 specimens (1) Ceylon, Walker 26; (2) Nilghiris, Pycarah, Wight; (3) Anamallays, Beddome.

*Page* 274.—

3. **Didymocarpus zeylanicus** R. Br.
Valley of the Maskeliya Ganga, near the Laxapana mountain (F. Lewis); near Gartmore Estate, Maskeliya.

*Page* 275.—

1. **Chirita Moonii** Gardn.
Rangala.
*Chirita* is reduced to *Didymocarpus* in Engler's Nat. Pflanzenfamilien, perhaps correctly.

*Page* 276.—

2. **C. Walkeri** Gardn.
Horton Plains; Rangala; Medamahanuvara.

*Page* 277.—

**Championia reticulata** Gardn.
Tittaweralu Kotha; near Adavi Kande.

*Page* 281.—

**Oroxylum indicum** Vent. **Achi, Pana, Peni,** *T.* (Gamble).

*Page* 282.—For *Dolichandrone Rheedii* Seem. read:

**D. spathacea** K. Sch. Fl. Kais. Wilh. Land. p. 122 (1839); Sprague in Kew Bull. p. 304 (1919). *Bignonia spathacea* Linn. f. Suppl. Pl. p. 283 (1781). *Spathodea Rheedii* Wall. Cat. no. 6516 (1830); DC. Prodr. IX, p. 206 (1845). *Dolichandrone Rheedii* Seem. in Journ. Bot. VIII, p. 380 (1870).

*Page* 283.—For *Stereospermum chelomioides* DC. read:

**S. tetragonum** DC. Prodr. IX, p. 124 (1845); Haines in Kew Bull. p. 121 (1922). *S. chelonioides* DC. Prodr. IX, p. 210 (1845) pp. non *Bignonia chelonioides* Linn. f. **Vela-padri, Pombathiri,** *T.* (Gamble).

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## XCVII.—PEDALIACEÆ.

Infl. racemose; stam. 2; fruit 2-celled . . . . 1a. *Martynia.*
 Fls. solitary, axillary, stam. 4:
  Fruit indehiscent, spiny . . . . . . . 1. PEDALIUM.
  Fruit a 2-valved capsule, unarmed . . . . 2. SESAMUM.

### 1a. MARTYNIA *Linn.*

Annual or perennial herbs; l. opp. or alt.; fls. in short, terminal racemes; stam. 2–4; staminodes 1–3; ovary 1-celled; ovules numerous; capsule sub-drupaceous, loculicidally dehiscent, the outer wall falling off in 2 pieces.—Sp. 10; Tropical America.

M. DIANDRA Glox. Obs. t. 1 (1785); Petch in Ann. Perad. VI, p. 185 (1916). **Naga-darana,** *S.* (Petch).

Annual herb; stem erect, about 3 ft. high; l. ovate, cordate at base, shallowly lobed, pubescent; lamina $2\frac{1}{2}$–5 in. long, membranaceous; petiole $1\frac{1}{2}$–4 in. long; racemes few-fld.; calyx membranaceous; cor. over 1 in. long; fruit $1\frac{1}{4}$ in. long.

Waste places on the dry region, rather common. Polonnaruva; Ekiriyankumbara. Fl. Jan.; purple.
A native of Mexico.

### 2. **SESAMUM** *Linn.*

Erect herb; leaves sparsely hairy:
 Fls. small, almost white; upper leaves ovate . 1. *S. indicum.*
 Fls. large, purple; upper leaves lanceolate . 2. *S. radiatum.*
Prostrate herb; leaves densely white-tomentose below . . . . . . . . . 3. S. PROSTRATUM.

1. S. INDICUM Linn.
The name *S. orientale* Linn. has page priority over *S. indicum* Linn. and is adopted by Merrill and other authors.

*Page* 286.—For *S. occidentale* Heer and Regel read:

S. RADIATUM Schum. in Schum. & Thonn. Beskr. Guin. Fl. p. 282 (1827); Stapf in Fl. Trop. Afr. VI, 2, p. 557 (1906). *S. occidentale* Regel & Heer Ind. Sem. Hort. Turic. (1842).

3. **S. prostratum** Retz. Obs. I, p. 28 (1779); Wight Ic. t. 1346 (1850); Clarke in Fl. Brit. Ind. IV, p. 386 (1885); Petch in Ann.

Perad. VI, p. 69 (1915). ?*S. laciniatum* Klein. ex Willd. Sp. Pl. III, p. 359 (1801).

Stem prostrate, creeping, copiously branched, pilose; l. opp. below, the upper ones alternate, ½–¾ in. long, obovate, usually crenate but sometimes lobed, slightly pilose on the upper surface, densely white tomentose below; fls. solitary, axillary, on erect puberulous pedicels; cal.-segs. lanceolate, pubescent; corolla pubescent; capsule under ½ in., ovate-oblong, scarcely beaked, pubescent; seeds black, reticulate.

Seashore at Panava, E.P. (F. Lewis).
Also in S. India.

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## XCVIII.—ACANTHACEÆ.

Add to key:

Cal.-segm. 4; stam. 2:
Leaves radical; bracteoles small . . . 2. ELYTRARIA.
Leaves opposite; bracteoles wanting . . *Nelsonia.*

And:

Cor.-lobes nearly equal:
Fls. solitary paniculate:
Fls. axillary, solitary or in cymes . . 7. RUELLIA.
Fls. in terminal panicles . . . . 10. STENOSIPHONIUM.
Fls. in heads on panicles; caps. seed-bearing from the base . . . . . . *Hemigraphis.*

And:

Anth. blunt at base:
Bracts shorter than the calyx; fls. white . 24. RHINACANTHUS.
Bracts longer than the calyx; fls. purple . *Peristrophe.*

*Page* 288.—

**THUNBERGIA** *Linn. f.*

Cal. 12–20 toothed:
Fls. white . . . . . . . 1. T. FRAGRANS.
Fls. yellow or orange with purple centres . 2. *T. alata.*
Cal. 5-toothed . . . . . . . *T. Hawtayneana.*

T. ALATA Boj. ex Sims, Bot. Mag. t. 2591 (1825.)

Stems slender, twining, pubescent with deflexed hairs; l. ovate-deltoid, hastate at base, pubescent; petiole, 1–2 in. long, winged; ped. 1–2 in. long; bractlets up to ¾ in., ovate; cor.-tube almost 1 in. long, limb 1¼ in. diam.; cap. up to 1 in. long; pubescent.

Common by roadsides in the moist region up to 5000 ft. Fl. July; orange yellow with purple centre.

A native of Tropical Africa.

*Page* 289.—For *Elytraria crenata* Vahl read:

**E. acaulis** Lindau, in Engl. u. Prantl. Nat. Pfl., Nachtr. I, p. 304 (1897); Gamble Fl. Madr. p. 1009 (1924). *Justicia acaulis* Linn. f. Suppl. p. 84 (1781). *Elytraria crenata* Vahl Enum. p. 106 (1805). *Tubiflora acaulis* O. Ktze. Rev. Gen. p. 500 (1891).

*Page* 290.—For *Nelsonia campestris* Br. read:

N. BRUNELLIOIDES O. Ktze. Rev. Gen. p. 493 (1891). *Justicia canescens* Lamk. Ill. I, p. 41 (1791). *J. brunellioides* Lamk. l. c. p. 40. *N. campestris* R. Br. Prodr. p. 481 (1810). *N. canescens* Spreng. Syst. I, p. 42 (1825) non Clarke in Fl. Brit. Ind. IV, p. 394. *N. tomentosa* A. Dietr. Sp. Pl. I, p. 419 (1831).

Ceylon (Walker)?

Also throughout the tropics.

### 3. EBERMAIERA *Nees.*

The name *Staurogyne* Wall. which is adopted by Gamble, Fl. Madr. p. 1010, has only page priority over *Ebermaiera* Nees.

**E. zeylanica** Nees.

The type locality is given in DC. Prodr. as " Ad Kandy Warakapolly in Zeylano, McRae, 369," which is presumably Varakapola near Ambepussa.

The Batticaloa specimen appears to be the *E. glauca* Nees, which may prove only a dry country form of *E. zeylanica* Nees.

Gamble separates them as follows:

Stem erect, the branches not trailing, viscous-pubescent; upper leaves or nearly all alternate, spathulate; bract narrow spathulate, bracteoles 2, linear, small; seeds globose, not pitted . . . . . . . 1. *glauca*.

Stem-branches trailing with short erect stems from the nodes, hispid, not viscous; leaves all opposite, elliptic-oblong or obovate; bract broad, obovate, bracteoles 2, linear-lanceolate; seeds pitted . . . 2. *zeylanica*.

*Page* 290.—For *Cardanthera* Ham. read:

Stam. 4 . . . . . . . . . . 4. SYNNEMA.
Stam. 2 . . . . . . . . . . 4a. PLÆSIANTHA.

### 4. SYNNEMA *Benth.*

For *Cardananthera uliginosa* Ham. read:

1. **Synnema uliginosum** O. Ktze. Rev. Gen. p. 500 (1891). *Ruellia uliginosa* Linn. f. Suppl. p. 290 (1781). *Cardanthera uliginosa* Ham. in Fl. Brit. Ind. IV, p. 403 (1884).

For *Cardanthera balsamica* Clarke and *C. verticillata* Clarke read:

2. **Synnema balsamicum** (Linn. f.). *S. verticillatum* O. Ktze. l. c. *Ruellia balsamica* Linn. f. Suppl. Pl. p. 290 (1781). *Adenosma verticillatum* Nees in Wall. Pl. As. Rar. III, p. 79 (1832). *Cardanthera balsamica* Clarke in Fl. Brit. Ind. IV, p. 404 (1889). *C. verticillata* Clarke l. c.

### 4a. PLÆSIANTHA *Livera.*

Annual; l. opp., simple, entire; fl. small, solitary; bracts and bracteoles wanting; sep. 5, narrow, one usually larger than the rest; corolla very small; cor.-tube short, ventricose above; limb 2-lipped; upper lip bifid; lower lip shortly 3-toothed; cor-lobes contorted in bud; stam. 2, slightly exserted; capsule narrow, slightly compressed, without a solid base; seeds 10 or more in each cell; retinacula minute, straight, short.—Sp. 2; one Ceylon, one West Africa.

*Page* 292.—For *Cardanthera Thwaitesii* Benth. read:

**Plæsiantha Thwaitesii** Livera in Ann. Perad. IX, p. 196 (1924). *Adenosma Thwaitesii* T. And. in Thw. Enum. p. 224 (1860). *Cardanthera Thwaitesii* Benth. in Gen. Pl. II, p. 1075 (1876). *Synnema Thwaitesii* O. Ktze. Rev. Gen. p. 500 (1891).

If the African species is congeneric this is an interesting case of discontinuous distribution. The generic name is unfortunate as there is another genus *Plæsianthera* Hk. f. Our species resembles *Brillantaisia* in habit.

For *Hygrophila* Br. read:

Spineless; sep. 5, more or less connate; seeds numerous . . . . . . . . . 5. HYGROPHILA.
Spinose; sep. 4, free; seeds few . . . . 5a. ASTERACANTHA.

### 5a. ASTERACANTHA *Nees.*

Herb; l. whorled in threes with spines in the axils; fl. rather large, sessile, in few-flowered, axillary whorls; bracts leafy; bracteoles linear-lanceolate; sep. 4, free; cor.-tube funnel-shaped above deeply 2-lipped,; lobes long, contorted in bud; stam. 4, didynamous; capsule linear, not compressed, without a solid base; seeds few, ovoid, covered with elastic, hygroscopic hairs; retinacula long, slightly curved, sharp.—Sp. 1.

For *Hygrophila spinosa* And. read:

**Asteracantha longifolia** Nees in Wall. Pl. As. Rar. III, p. 90 (1832); Gamble Fl. Madr. p. 1014 (1924). *Barleria longifolia* Linn. Amœn. Acad. IV, p. 320 (1759). *Hygrophila spinosa* T. And. in Thw. Enum. p. 225 (1860). *H. longifolia* Kurz. in Journ. As. Soc.

Beng. p. 78 (1870), not *Bahelia longifolia* O. Ktze. Rev. Gen. p. 458 (1891).

*Bahel* Adans (1763) seems to be the oldest name for this genus, though Kuntze appears to have used it for *Artanema* Don.

*Page* 294.—For *Calophanes* D. Don read:

6. **DYSCHORISTE** *Nees.*

For *Calophanes Nagchana* Nees read:

1. **Dyschoriste erecta** O. Ktze. Rev. Gen. p. 485 (1891); Merr. in Phil. Journ. Sc. XIX, p. 381 (1921). *Ruellia erecta* Burm. f. Fl. Ind. p. 135 t. 41 f. 3 (1765). *Dyschoriste depressa* Nees in Wall. As. Rar. III, p. 82 (1832). *Calophanes Nagchana* Nees in DC. Prodr. XI, p. 109 (1847).

For *Calophanes littoralis* And. read:

2. **Dyschoriste madurensis** O. Ktze. Rev. Gen. p. 486 (1891); Merr. in Phil. Journ. Sc. XIX, p. 381 (1921). *Justicia madurensis* Burm. f. Fl. Ind. p. 9 t. 4 f. 3 (1768). *Ruellia littoralis* Linn. f. Suppl. p. 289 (1781). *Calophanes littoralis* T. And. in Thw. Enum. p. 225 (1860).

7. **RUELLIA** *Linn.*

| | |
|---|---|
| Capsule clavate; fls. solitary, axillary: | |
| L. sparsely hairy: | |
| L. ovate-elliptic; fls. pale mauve-violet, not spotted . . . . . . . . . | 1. R. RINGENS. |
| L. lanceolate, fls. pale lavender with 2 dark spots . . . . . . . . . | *R. repens.* |
| L. densely pubescent, ovate-elliptic; fls. very pale purplish-blue . . . . . . . . | 2. R. PATULA. |
| Capsule cylindric; infl. cymose; fls. bright blue . | 3. *R. tuberosa.* |

3. R. TUBEROSA Linn. Sp. Pl. p. 635 (1753).

A suberect herb; stem 4-angled, swollen and purplish at the nodes, sparsely hairy; lvs. obovate-elliptic, about 2 in. long, bright green, glabrous, margin undulate; infl. axillary, cymose; cal.-segm. linear, ¾ in. long; cor. 1¾ in. across; capsule over 1 in. long, cylindric, many-seeded.

Grassy places in the low moist region. Peradeniya; Colombo; Heneratgoda. Fl. April; blue.

A native of Tropical America; also runs wild in N. India and the Malay Peninsula.

*Page* 296.—For *Phaylopsis parviflora* Willd. read:

**P. imbricata** Sweet Hort. Brit., ed. 1, p. 327 (1827). *Ruellia imbricata* Forsk. Descr. Æg. Arab. p. 113 (1775). *R. dorsiflora* Retz. Obs. VI, p. 31 (1791). *Micranthus oppositifolius* Wendl. Bot. Beobacht. p. 39 (1798). *Phaylopsis parviflora* Willd. Sp. Pl. III, p. 342 (1800). *P. longifolia* Sims, Bot. Mag. t. 2433 (1823). *Ætheilema reniforme* Nees in Wall. Pl. As. Rar. III, p. 94 (1832). *Micranthus imbricatus* O. Ktze. Rev. Gen. p. 493 (1891).

*Page* 297.—For *Dædalacanthus montanus* And. read:

**D. fastigiatus** (Lamk.). *Justicia fastigiata* Lamk. Ill. p. 41 (1791). *J. montana* Roxb. Cor. Pl. II, p. 41 t. 176 (1798). *Eranthemum fastigiatum* R. Br. ex R. & S. Syst. I, p. 174 (1817). *E. montanum* Roxb. Hort. Beng. p. 80 (1814). *E. capense* Linn. Sp. Pl. p. 9 (1750) pp. *Dædalacanthus capensis* Druce, in Rep. Bot. Exch. Cl. 1913, p. 417 (1914). *D. montanus* T. And. in Thw. Enum. p. 229 (1860).

As *E. capense* Linn. included a Cape plant collected by Oldenland, I have not followed Radlkofer and other authors in adopting the name *Eranthemum* Linn. for this genus.

*Page* 298.—For *Stenosiphonium Russellianum* Nees read:

**S. cordifolium** (Vahl). *Ruellia cordifolia* Vahl Symb. III, p. 34 (1794). *Stenosiphonium Russellianum* Nees in Wall. Pl. As. Rar. III, p. 84 (1832).

### 11. STROBILANTHES *Blume.*

Lindau, in Engl. u. Prantl. IV, 3b, p. 303 splits this into 4 genera thus:

Rippen - pollen, selten stachel - pollen (*Strobilantheæ*):
- Pollen rund, stacheling . . . 40. Pseudostenosiphonium.
- Pollen etwas dreikantig mit undeutlichen Längsrippen und auf diesen Stacheln . . . . . . 41. Lamiacanthus.
- Typischer Rippen-pollen . . . 42. Strobilanthes.

Waben-pollen, seltener glatter oder stachel-pollen (*Ruellieæ*) . . . 50. Dischistocalyx.

He refers *Strobilanthes viscosus* T. And., *S. nigrescens* T. And., *S. rhamnifolius* T. And., *S. Gardnerianus* T. And. and *S. zeylanicus* T. And. to his *Pseudostenosiphonium.*

Clarke in Fyson, Flora of the Nilghiri and Pulney Hill-Tops p. 311, proposes the following classification:

1. Endopogon Nees; stamens two only; pollen grains ellipsoid with 12–20 ribs. *Strobilanthus stenodon* Clarke.

2. Gutzlaffia Hance; stamens two only; pollen grains with tubercles or spines. *S. viscosus* T. And., *S. exareolatus* Clarke, *S. nigrescens* T. And., *S. rhamnifolius* T. And. and *S. deflexus* T. And.

3. Acanthopale Clerke; stamens 4; pollen grains with spines or prickles. *S. lanceolatus* Nees, *S. Arnottianus* Nees, *S. exsertus* Clarke, *S. Hookeri* Nees, *S. laxus* T. And.

4. Strobilanthes Blume; stamens 4; pollen grains ellipsoid with 12–20 longitudinal ribs. The remaining species.

But Burkill and Clarke, in Fl. Trop. Afr. V, p. 2, object to giving the "pollen-characters a predominating value" and on p. 62, while keeping up *Acanthopale* Clarke and referring *Pseudostenosiphonium Gardnerianum* Lindau to it, they admit its artificiality. *Strobilanthes* is therefore retained in its widest sense.

*Page* 303.—For *Strobilanthes exareolatus* Clarke read:

4. **S. diandrus** (Nees). *Stenosiphonium diandrum* Nees in DC. Prodr. XI, p. 104 (1847). *Strobilanthes exareolatus* Clarke in Fl. Brit. Ind. IV, p. 432 (1884).

*Page* 305.—

10. **S. Walkeri** Arn.
Hakgala; Maturata.

*Page* 310.—

19. **S. Gardnerianus** T. And.
Hakgala.

20. **S. vestitus** Nees.
Hakgala.

*Page* 312.—

24. **S. zeylanicus** T. And.
Ellaboda Kande, Delgoda (F. Lewis).

*Page* 313.—

25. **S. sexennis** Nees.
Endemic? this is not in Gamble's Fl. Madr. though it is given by Fyson (l. c.) p. 314.

*Page* 314.—

27. **S. paniculatus** T. And.
Dotalugala Kande, Eratne.

*Page* 316.—For *Blepharis bœrhaaviæfolia* Pers. read:

1. **B. maderaspatensis** Heyne ex Roth. Nov. Sp. p. 320 (1821). *Acanthus maderaspatensis* Linn. Sp. Pl. p. 392 (1753). *A. ciliaris* Burm. f. Fl. Ind. p. 139 (1768). *Blepharis bœrhaaviæfolia* Pers. Syn. II, p. 170 (1807).

For *B. molluginifolia* Pers. read:

2. **B. repens** Roth. Nov. Sp. p. 321 (1821). *Acanthus repens* Vahl. Symb. II, p. 76 (1791). *Blepharis molluginifolia* Pers. Syn. II, p. 180 (1807).
Mullaitivu.

*Page* 319.—For *Barleria noctiflora* Linn. f. read:

3. **B. lanceata** C. Chr. in Dansk. Bot. Arch. IV, p. 10 (1922). *Justicia lanceata* Forsk. Fl. Æg. Arab. no. 18 (1775). *Barleria noctiflora* Linn. f. Suppl. p. 290 (1781).
Also in S. India.

*Page* 320.—

4. **B. involucrata** Nees.
Dotalugala Kande, Eratne.

5. **B. vestita** T. And.
Ellaboda Kande, Delgoda (F. Lewis).

*Page* 322.—For *Crossandra undulæfolia* Salisb. read:

**C. infundibuliformis** Nees in Wall. Pl. As. Rar. III, p. 98 (1832). *Justicia infundibuliformis* Linn. Syst. ed., 10, p. 850 (1859). *Crossandra undulæfolia* Salisb. Parad. t. 12 (1806).

*Page* 323.—For *Asystasia coromandeliana* Nees read:

1. **A. gangetica** T. And. in Thw. Enum. p. 235 (1860); Gamble Fl. Madr. p. 1063 (1924). *Justicia gangetica* Linn. Amœn. Acad. IV, p. 299 (1759). *Asystasia coromandelaiana* Nees in Wall. Pl. As. Rar. III, p. 89 (1832).

*Page* 325.—For *Eranthemum* Linn. read:

17. **PIGAFETTA** *Adans.*

For *Eranthemum malabaricum* Clarke read:

**Pigafetta malabarica** (Clarke). *Eranthemum malabaricum* Clarke in Fl. Brit. Ind. IV, p. 497 (1884). *Pseuderanthemum malabaricum* Gamble Fl. Madr. p. 1064 (1924).

*Page* 328.—

19. **GYMNOSTACHYUM** *Nees.*

The name *Cryptophragmium* Nees which is adopted by Lindau, in Engl. and Prantl. Nat. Pfl. IV, p. 324, has only page priority over *Gymnostachyum*. Nees.

*Page* 333.—

22. **JUSTICIA** *Linn.*

Add to key:

| | |
|---|---|
| Erect shrubs: | |
| Infl. terminal: | |
| Infl. spicate; lvs. linear lanceolate . . | 4. J. GENDARUSSA. |
| Fl. axillary and terminal; lvs. lanceolate . | *J. Moretiana.* |
| Infl. axillary; paniculate: | |
| L. linear; seeds tuberculate . . . | 5. J. HOOKERIANA. |
| L. lanceolate; seeds bristly . . . | 6. J. GLABRA. |
| Diffuse herbs: | |
| Bracts as long as the sepals; infl. villous: | |
| Lip $\frac{1}{10}$ in. across . . . . . . | 7. J. PROCUMBENS. |
| Lip over $\frac{1}{4}$ in. across . . . . . | 8. J. ROYENIANA. |
| Bractlets much shorter than the sepal; infl. subglabrous; fls. small . . . . . | 9. J. PURPUREA. |

*Page* 337.—

8. **J. Royeniana** Clarke.

Too many species appear to have been made here; add synonyms:

*Rostellularia procumbens* Wt. Ic. t. 1539 (1850) non Nees. *R. simplex* Wt. l. c. 1542 (1850) non *J. simplex* D. Don. *Justicia notha* Clarke in Fl. Brit. Ind. IV, p. 537 (1885). *J. khasiana* Clarke l. c.

*J. assamica* Clarke l. c. *J. procumbens* var. *latispica* Clarke l. c. p. 539. *J. latispica* Gamble Fl. Madr. p. 1080 (1924).

*J. simplex* D. Don and *J. serphyllifolia* Gamble are probably referable to *J. procumbens* Linn.

*Page* 338.—For *J. diffusa* Willd. read:

9. **J. purpurea** Linn. Sp. Pl. p. 16 (1753) pp. excl. syn. Rumph.; Nees. in DC. Prodr. XI, p. 438 (1847). *J. diffusa* Willd. Sp. Pl. I, p. 87 (1797). ?*J. prostrata* Gamble Fl. Madr. p. 1081 (1924). ?*J. Vahlii* Roth. Nov. Sp. p. 14 (1821); Gamble l. c. p. 1081.

Vars. *prostrata* Roxb. and *Vahlii* Clarke, which have been raised to specific rank by Gamble, seem doubtfully distinct.

*Page* 339.—For *Rhinacanthus communis* Nees read:

**R. nasutus** O. Ktze. Rev. Gen. p. 474 (1891). *Justicia nasuta* Linn. Sp. Pl. p. 16 (1753). *Rhinacanthus communis* Nees in Wall. Fl. As. Rar. III, p. 109 (1832).

*Page* 341.—For *Ecbolium Linneanum* Kurz. read:

**E. viride** (Forsk.). *Justicia viridis* Forsk. Fl. Æg. Arab. p. 5 (1775). *J. ligustrina* Vahl. Enum. I, p. 118 (1805). *Ecbolium Linneanum* Kurz, in Journ. As. Soc. Beng. XL, p. 75 (1871).

For *Graptophyllum hortense* Nees read:

G. PICTUM Griff. Not. IV, p. 139 (1854). *Justicia picta* Linn. Sp. Pl. ed. 2 (1762). *Graptophyllum hortense* Nees in Wall. Pl. As. Rar. III, p. 102 (1832).

*Page* 345.—For *Peristrophe tinctoria* Nees read:

P. BIVALVIS Merr. Int. Rumph. p. 476 (1917). *Justicia bivalvis* Linn. in Amœn. Acad. IV, p. 134 (1759). *J. tinctoria* Roxb. Fl. Ind. I, p. 124 (1820). *Peristrophe tinctoria* Nees in Wall. Pl. As. Rar. III, p. 113 (1832); Clarke in Fl. Brit. Ind. IV, p. 556 (1885).

Clarke remarks "where wild not known."

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*Page* 345.—

## XCIX.—VERBENACEÆ.

Add to key:

Stam. 4:
 Ov. 2-celled . . . . . . . . 3. BOUCHEA.
 Ov. 4-celled . . . . . . . . *Verbena.*

*Page* 346.—

### 1. LANTANA *Linn.*

Stems not prickly; fls. purple.
 Leaves ovate, usually opposite . . . . . 1. L. SALVIFOLIA.
 Leaves lanceolate, ternate . . . . . . 2. *L. trifolia.*
Stem prickly; fls. orange or pinkish . . . 3. *L. aculeata.*

For *L. indica* Roxb. read:

1. **L. salvifolia** Jacq. Hort. Schœnbr. III, p. 18 t. 285 (1798); Lam. in Bull. Jard. Buit., sér. 3, III, p. 5 (1921). *L. indica* Roxb. Hort. Beng. p. 46 (1814) nomen; Fl. Ind. III, p. 89 (1832).

2. L. TRIFOLIA Linn. Sp. Pl. p. 626 (1753); Bot. Mag. t. 1449; Clarke in Fl. Brit. Ind. IV, p. 863.

A shrub, about 4 ft. high; stem hispid, slightly ridged; leaves in threes, lanceolate, crenate, 3–3½ in. long, 3-nerved from the base, sparsely hairy above, rugose, softly pubescent beneath; spikes axillary, solitary, peduncled, at first globose, then elongate, up to 1½ in. long; fruit dull purple.

Common by roadsides. Fl. Sept.; violet or rarely white.
A native of Tropical America, now found in E. Africa and Tropical Asia.

3. L. ACULEATA Linn. Sp. Pl. p. 627 no. 4 (1753); Bot. Mag. t. 96. *L. Camara* Linn. l. c. no. 3.

A shrub 4–8 ft. high; branches 4-angled, slightly hispid, armed with hooked prickles; leaves opposite, ovate, lamina 1½–2½ in. long, crenate, hispid above, sparsely pubescent beneath; petiole ½–1 in. long; spikes globose, solitary, axillary, drupes black.

Very common by roadsides. Fls. March, July; orange or rarely outer red and inner pale yellow.
A native of Tropical America.

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## 4. STACHYTARPHETA *Vahl.*

Leaves densely villous beneath; fls. pink . . . *S. mutabilis.*
Leaves subglabrous, beneath; fls. blue:
  Leaves ovate, bullate, serrate; tertiary veins prominent below; fls. bright blue; style longer than stamens . . . . . . 1. S. JAMAICENSIS.
  Leaves spathulate, flat, crenate; tertiary veins inconspicuous; fls. pale blue; style shorter than stamens . . . . . . . . 2. S. INDICA.

S. MUTABILIS Vahl Enum. I, p. 209 (1805).
Occasional escape.
Native of Trop. America.

*S. mutabilis*×*S. jamaicensis* H. Lam. and v. d. Brink, in Bull. Jard. Buit. sér. 3, III, p. 6 (1921). *S. indica*×*S. mutabilis* Trimen, Fl. Ceyl. III, p. 348 (1895). *S. Trimeni* Rechinger, in Fedde Rep. XI, p. 189 (1912).
This hybrid has also been found in Java.

1. **S. jamaicensis** Vahl Enum. I, p. 206 (1805); Ridl. Fl. Mal. Pen. II, p. 613 (1923); Schau. in DC. Prodr. XI, p. 564 (1848). *Verbena jamaicensis* Linn. Sp. Pl. p. 19, no. 2 (1753) pp. *Stachytarpheta indica* Trim. Fl. Ceyl. III, p. 348 (1895); Gamble Fl. Madr. p. 1090 (1924). *S. urticæfolia* Sims, in Bot. Mag. t. 1848 (1816). *S. jamaicensis* var. *typica* H. Lam. and v. d. Brink, in Bull. Jard. Buit. sér. 3,

III, p. 6 (1921). *Abena jamaicensis* Hitchc. in Miss. Bot. Gard. Rep. IV, p. 117 (1873).

Tropics generally; probably a native of Tropical America.

Mr. Goode of the British Museum informs me that Linnæus's species, though based on Sloane's plate, is represented in his herbarium by a Hortus Upsalensis plant, which is something else altogether, and by a specimen of *S. indica* as here interpreted. The latter received from P. Brown after the publication of the Species plantarum.

*S. urticæfolia* Sims is referred to *S. dichotoma* Vahl in the Index Kewensis and in De Candolle's Prodromus.

Zollinger 849, the type of *S. bogoriensis* is referred to *S. indica* in DC. Prodr.

2. **S. indica** Vahl Enum. I, p. 206 (1805); Schau. in DC. Prodr. XI, p. 546 (1830). ? *Verbena indica* Linn. Syst. Nat. X, p. 851 (1759). *S. jamaicensis* Bot. Mag. t. 1860. *S. indica* var. *jamaicensis* Trim. Fl. Ceyl. III, p. 348 (1895); Gamble Fl. Madr. p. 1000 (1924).

Tropics generally; probably a native of Tropical America.

*Page* 349.—For *Priva leptostachya* Juss. read:

**P. Forskohlei** E. Mey Comm. Pl. Afr. Austr. p. 275 (1835) (Forskaolii). *Verbena Forskaolæi* Vahl Symb. Bot. III, p. 6 (1794). *Streptium asperum* Roxb. Cor. Pl. II, p. 25 (1798) non *P. aspera* H. B. K. *Zapania arabica* Poir. Encycl. VIII, p. 844 (1808). *Priva leptostachya* Juss. in Ann. Mus. VII, p. 70 (1808). *P. dentata* Juss. l. c.

### 5a. Verbena *Linn.*

Herbs or undershrubs; leaves usually opposite; infl. spicate or paniculate; cal. tubular, 5-ribbed; corolla 5-lobed; stam. 4, didynamous, included; ovary 4-celled, with 1 ovule in each cell; fruit of 4 pyrenes.—Sp. 80; America.

Infl. much branched; bracts equalling cal.-segm.; fls. violet . . . . . . . . . 1. *V. venosa.*
Infl. usually simple; bracts longer than cal.-segm.; fls. pale mauve . . . . . . . 2. *V. bonariensis.*

1. V. venosa Gill. & Hk. Bot. Misc. I, p. 6 (1830); Hk. in Curt. Bot. Mag. t. 3127 (1832).

Herb up to 3 ft. high; stem square, rough; leaves linear-lanceolate, 2–4 in. long, toothed, rugose, scabrous; infl. terminal, much-branched.

Grassy places about Nuvara Eliya and Hakgala. Fls. May, Sept.; violet.

A native of the Argentine, also found in India and Africa.

Trimen's specimens appear to be *V. bonariensis* Linn.

2. V. bonariensis Linn. Sp. Pl. p. 20 (1753).

Herb under 2 ft. high; stem square, hispid; leaves oblanceolate, 2–3 in. long, deeply toothed or irregularly lobed, sparsely hairy; infl. usually simple.

Waste places at Hakgala and Haputale. Fls. Dec., Jan.; pale mauve.
A native of Tropical America, also found in S. India.

*Page* 354.—

7. **Premna procumbens** Moon.
Narragalla Rocks; Eluvativu Is.; Kaits; Trincomalee.
Also in S. India.

*Page* 355.—

**Gmelina arborea** Roxb. **Gumadi, Umi,** *T.* (Gamble).

*Page* 356.—

9. **VITEX** *Linn.*

Leaves densely white-tomentose below; fls. purplish; leaflets often stalked:
  Leaves 3-phyllous, elliptic-lanceolate, stalked or not . . . . . . . . 1. V. TRIFOLIA.
  Leaves 5-phyllous, lanceolate, stalked . . 2. V. NEGUNDO.
Leaves pubescent or glabrous below:
  Leaflets sessile, usually slightly pubescent; fls. purplish:
    Corolla under $\frac{1}{4}$ in. long . . . . . 3. V. PINNATA.
    Corolla $\frac{1}{2}$ in. long . . . . . . . *V. pubescens.*
  Leaflets stalked, glabrous; fls. yellowish . . 4. V. LEUCOXYLON.

*Page* 357.—

2. **V. Negundo** Linn. **Nochchi** *T.* (Gamble).

For *V. altissima* Linn. f. read:

3. **V. pinnata** Linn. Sp. Pl. p. 638 (1753). *V. altissima* Linn. f. Suppl. Fl. p. 294 (1781). **Maila,** *T.* (Gamble).

V. PUBESCENS Vahl.
This is cultivated in the Peradeniya Gardens, which was probably the source of Walker 1122.

*Page* 359.—

10. **CLERODENDRON** *Linn.*

Cor. up to $1\frac{1}{2}$ in. long:
  Cymes small, axillary, distinct; fls. white . 1. C. INERME.
  Cymes collectively forming a terminal panicle:
    Cal. not enlarged in fruit:
      Fls. pink . . . . . . . . 2. C. PHLOMIDIS.
      Fls. blue . . . . . . . . 3. C. SERRATUM.
      Fls. white, usually double . . . *C. fragrans.*
    Cal. much enlarged in fruit:
      Fls. white . . . . . . . 4. C. INFORTUNATUM.
      Fls. red . . . . . . . . *C. paniculatum.*
Cor. 3 in. long . . . . . . . . *C. indicum.*

C. FRAGRANS Vent. Jard. Malm. t. 70 (1803); Willd. Enum. Hort. Berol. p. 659 (1809); Sims, in Curt. Bot. Mag. t. 1834 (1816). *Vol-*

*kameria japonica* Thunb. Fl. Jap. p. 255 (1784) non *C. japonicum* Sweet.

Often found semi-wild.

C. PANICULATUM Linn. Mant. I, p. 90 (1767); Hk. in Curt. Bot. Mag. t. 7141 (1890).

A frequent escape from cultivation.

1. **Clerodendron inerme** Gaertn. **Sangam,** *T.* (Gamble).

*Page* 360.—

2. **C. Phlomidis** Linn. f. **Taludala,** *T.* (Gamble). Polonnaruva.

3. **C. serratum** Moon Cat. p. 46 (1824); Spreng. Syst. II, p. 758 (1825). **Chiru-dekku,** *T.* (Gamble).

*Page* 361.—

4. **C. infortunatum** Linn. **Perugilai,** *T.* (Gamble).

For *C. Siphonanathus* Br. read:

C. INDICUM O. Ktze. Rev. Gen. p. 586 (1891). *Ovieda mitis* Burm. f. Fl. Ind. p. 136 t. 48 f. 1 and 2 (1768) non *C. mite* Vahl. *Siphonanthus indica* Willd. Sp. Pl. I, p. 606 (1798). *Clerodendron Siphonanthus* R. Br. in Ait. Hort. Kew ed. 2, IV, p. 65 (1812).

*Page* 363.—For *Avicenina officinalis* Linn. read:

Leaves obtuse, obovate; anth. exserted; style elongated, villous; capsule 1–1½ in.; fls. under ¼ in. across, usually racemose; ovary hairy . 1. A. OFFICINALIS.

Leave acute, elliptic; anth. included; style very short, glabrous; capsule ½–1 in.; fls. under ¼ in. across, usually capitate; ovary hairy at apex . 2. A. MARINA.

1. **A. officinalis** Linn. **Upattha,** *T.*

Sea coast, rather rare? Panadura.

Also on all Tropical Asian shores.

2. **A. marina** Vierh. in Denkschr. Akad. Wiss. LXXI, p. 435 (1907); Bakh. in Ann. Jard. Buit., sér. 3, III, p. 203 (1921). *Sceura marina* Forsk. Fl. Æg. Arab. II, p. 37 (1775). *Avicennia nitida* Thunb. Fl. Ceil. p. 8 (1825) non Jacq. **Venkandan,** *T.* (Gamble).

A bush or small tree; young twigs quadrangular, white with fine pubescence; l. 1½–2½ in., elliptic, cuneate or rarely rounded at base, subacute at apex, entire, glabrous and shining above with a dense felt of pubescence beneath, coriaceous; fl. sessile, cor. under ¼ in. across; anth. included; style very short, conical, glabrous; ovary hairy on apex only; capsule ¼ in.

Sea coast; common.

Also on all Tropical Asian shores.

## C.—LABIATÆ.

Add to key:

Stam. included:
- Stam. 4 . . . . . . MOSCHOSMA, ORTHOSIPHON.
- Stam. 2 . . . . . . *Salvia.*

Add to key:

Fil. free:
- Lower lip of cor. abruptly deflexed . . . 4b. *Hyptis.*
- Lower lip of cor. not abruptly deflexed . . 5. PLECTRANTHUS.

Add:

Cal. 2-lipped:
- Cal. segm. O. . . . . . . . . 12. SCUTELLARIA.
- Upper lip 3; lower 2-toothed . . . . 12a. *Prunella.*

Cal. segm. 5:
- Upper lip of corolla glabrous . . . . 13. ANISOMELES.
- Upper lip of corolla villous:
  - Anth. cells parallel . . . . . . 13a. *Leonurus.*
  - Anth. cells divergent . . . . . 13b. *Stachys.*

*Page* 365.—For *Ocimum canum* Sims read:

1. **O. americanum** Linn. Cent. Pl. I, p. 15 (1755). *O. canum* Sims, Bot. Mag. t. 2452 (1823).

*Page* 366.—

3. **O. adscendens** Willd.
Near Elephant Pass.

*Page* 368.—

1. **Geniosporum elongatum** Benth.
*G. indicum* Briq. was based on *Rhinanthus indica* Linn. (non Burm.) which is *Razumovia indica*, as pointed out by Trimen p. 259

For *G. prostratum* Benth. read:

2. **G. tenuiflorum** Merr. in Phil. Journ. Sc. XIX, p. 379 (1921). *Ocimum tenuiflorum* Linn. Sp. Pl. p. 597 (1753). *O. prostratum* Linn. Mant. p. 166 (1767). *Geniosporum prostratum* Benth. in Wall. Pl. As. Rar. II, p. 18 (1831).

### 4. ORTHOSIPHON *Benth.*

Cal. throat not villous within; lvs. 1–1$\frac{3}{4}$ in., subglabrous . . . . . . . . . O. GLABRATUS.
Cal. throat villous within; lvs. up to $\frac{3}{4}$ in., viscidly tomentose . . . . . . . . *O. diffusus.*

### 4a. Salvia *Linn.*

Leaves flat, subglabrous; fls. bright blue . . . 1. *S. tiliæfolia.*
Leaves rugose, hairy; fls. purple-blue . . . 2. *S. nilotica*

1. S. tiliæfolia Vahl Symb. Bot. III, p. 7 (1798); Petch in Ann. Perad. VI, p. 185 (1916).

This has been found as weed at Hakgala, Ambevela and Bandaravela.

A native of Mexico.

2. S. nilotica Murr. in Comm. Gotting. p. 98 t. 2 (1778).

This formerly occurred as a weed at Hakgala but has not been collected since 1890.

A native of E. Tropical Africa.

### 4b. Hyptis *Jacq.*

Annual or perennial herbs; calyx teeth 5, subulate or triangular, subequal; cor. 2-lipped, lower lip deflexed, boat-shaped; stam. 4, didynamous, declinate, free; achenes oblong-obovoid.—Sp. 250; natives of Tropical America.

*Page* 369.—

H. suaveolens Poit. in Ann. Mus. Par. VII, p. 472 t. 29 f. 2 (1806); Hk. f. in Fl. Brit. Ind. IV, p. 630 (1885); Petch in Ann. Perad. V, p. 338 (1914). *Bysteropagon graveolens* Blume Bijdr. p. 824 (1826).

A herb, up to 4 ft. high, aromatic; stem quadrangular, hairy; l. broadly ovate; lamina 1–2 in. long, crenate-serrate, hairy; petiole $\frac{1}{2}$–$1\frac{1}{2}$ in. long; fls. in axillary racemes or heads, stalked or sessile; cal. strongly ribbed, teeth linear.

Common in waste places from Chilaw to Galle. Fls. Jan., June, Aug.; blue.

A native of Tropical America. Introduced into Trop. Asia and Africa.

### 5. **PLECTRANTHUS** *L'Hérit.*

Add to key:

Stam. much exserted:
Leaves not cordate or toothed at base . . . 3. P. Gardneri.
Leaves cordate and toothed at base . . . *P. subincisus.*

*Page* 370.—

1. **Plectranthus nigrescens** Benth.

Also in S. India.

*Page* 371.—

3. **P. Gardneri** Thw.

Willis in Ann. Perad. V, p. 220, mentions a var. *Jowittii* which Livera, in Ann. Perad. XI (1928), states does not differ.

*Page* 372.—For *Plectranthus coleoides* Benth. read:—

4. **P. glabratus** (Benth.) *Coleus glabratus* Benth. Lab. p. 58 (1832). *C. Wightii* Benth. l. c. non *P. Wightii* Benth. *C. paniculatus* Benth. in Wall. Pl. As. Rar. II, p. 79 (1831) non *P. paniculatus* Jacq. *Plectranthus coleoides* Benth. in DC. Prodr. XII, p. 64 (1848).

6. **P. menthoides** Benth.

This is reduced to *P. Cœtsa* Ham. by Gamble, Fl. Madr. p. 1121, who makes also a var. *Macræi* Hk. f. ex Gamble, but our plant appears to be more hairy than the Indian.

*Page* 373.—For *Coleus barbatus* Benth. read:

1. **C. Forskohlii** Briq. in Engl. u. Prantl. Nat. Pfl. IV, 3a, p. 359 (1897); Haines Bot. Bih. and Or. p. 735 (1922). *Germania Forskohlii* Poir in Lamk. Encycl. II, p. 764 (1786). *Plectranthus barbatus* Andr. Bot. Rep. t. 594 (1797-1811). *Coleus barbatus* Benth. in Wall. Pl. As. Rar. II, p. 15 (1831).

*Page* 374.— For *C. parviflorus* Benth. read:

C. TUBEROSUS Benth. Lab. p. 59 (1832); Merr. Interp. Rumph. p. 459 (1917). *Plectranthus tuberosus* Blume, Bijdr. p. 836 (1826). *Coleus parviflorus* Benth. in DC. Prodr. XII, p. 72 (1848).

For *C. aromaticus* Benth. read:

C. AMBOINICUS Lour. Fl. Cochinch. p. 372 (1790); Merr. l. c. *Plectranthus aromaticus* Roxb. Fl. Ind., ed. 2, III, p. 22 (1832) non Hort. Beng. *Coleus aromaticus* Benth. in Wall. Pl. As. Rar. II, p. 16 (1831).

C. REHNELTIANUS A. Berger in Engl. Bot. Jahrb. LIV, Beibl. 120, p. 71 (1915).

Petch in Ann. Perad. IX, p. 350, has shown that this was *C. pumilus* Blanco, a cultivated plant.

### 12a. **PRUNELLA** *Linn.*

P. VULGARIS Linn. Sp. Pl. p. 600 (1735); Petch in Ann. Perad. VI, p. 71 (1915).

This species was collected at Nuvara Eliya in 1915.

*Page* 375.—

### 6a. **ENGLERASTRUM** *Briq.*

As *Coleus*, but calyx-segments subequal and stamens united at base but not forming a sheath; differs also in the straggling habit.—Sp. 7; the others in Tropical Africa.

For *Coleus elongatus* Trim. read:

**Englerastrum elongatum** Alst. in Kew Bull. p. 298 (1926). *Coleus elongatus* Trim. Journ. Bot. XXVII, p. 165 (1889).

Endemic? This is doubtfully distinct from *Englerastrum scandens*, a native of Eastern Tropical Africa.

*Page* 384.—For *Anisomeles ovata* Br. read:

**A. indica** O. Ktze. Rev. Gen. p. 512 (1891); Gamble Fl. Madr.

p. 1140 (1924). *Nepeta indica* Linn. Sp. Pl. p. 571 (1753). *Ballota disticha* Linn. Mant. I, p. 83 (1767). *Anisomeles ovata* R. Br. in Ait. Hort. Kew, ed. 2, II, p. 364 (1811).

*Page* 386.—

13a. Leonurus *Linn.*

L. sibiricus Linn. Sp. Pl. p. 584 (1753); Hk. f. in Fl. Brit. Ind. IV, p. 678 (1885).

This species has been found in waste places in many parts of India and may be expected here. It has once been collected at Peradeniya in 1889.

13b. Stachys *Linn.*

S. arvensis Linn. Sp. Pl., ed. 2, p. 814 (1762); Petch in Ann. Perad. VI, p. 184 (1916).

Collected at Nuvara Eliya in 1859 and in 1915.

A native of Europe and N.W. Asia; naturalised in N. America.

*Page* 389.—

**PLANTAGO** *Linn.*

Leaves all radical:

Capsule 8–16 seeded; leaves elliptic . . . 1. P. asiatica.

Capsule 2–4 seeded; leaves lanceolate . . . 2. *P. lanceolata.*

Stem leafy; leaves opposite . . . . . 3. *P. pumila.*

For *Plantago major* Linn. read:

**P. asiatica** Linn. Sp. Pl. p. 133 (1783); Gamble Fl. Madr. p. 1160 (1924). *P. major* var. *asiatica* Dcne. in DC. Prodr. XIII, I, p. 696 (1852).

2. P. lanceolata Linn. Sp. Pl. p. 113 (1753); Hk. f. in Fl. Brit. Ind. IV, p. 706 (1885).

A perennial herb; leaves radical, lanceolate, 2–6 in. sparsely hairy, 3–4 nerved from base to apex; spikes on long peduncles, under 1 in. long; corolla-lobes ovate acute; stam. long; anth. yellow; capsule usually 2-seeded.

Common about Nuvara Eliya.

A native of Europe and N. Asia; naturalised in Nepal.

3. P. pumila Willd. Enum. Hort. Berol. I, p. 162 (1809); Hk. f. l. c. p. 707; Petch in Ann. Perad. VII, p. 329 (1922). ?*P. Psyllium* Linn. Sp. Pl. p. 115 (1753). ?*P. stricta* Schousb. Vextr. Marokko, p. 69 (1800).

This species has occurred as a weed among Cummin grown at Ganoruva from Indian seed.

## CII.—NYCTAGINEÆ.

| | |
|---|---|
| Herbaceous; fls. hermaphrodite; stam. 2–6: | |
| Bracts small, free . . . . . . . . | 1. BOERHAAVIA. |
| Bracts large, connate . . . . . . | *Mirabilis.* |
| Shrubs; fls. diœcious; stam. 6–10 . . . . | 2. PISONIA. |

*Page* 390.—For *Boerhaavia repanda* Willd. read:

2. **B. chinensis** Druce in Rep. Bot. Exch. Cl. 1913, p. 415 (1914). *Valeriana chinensis* Linn. Sp. Pl. p. 33 (1753). *Boerhaavia repanda* Willd. Sp. Pl. I, p. 22 (1798).

*Page* 393.—

2. **Celosia pulchella** Moq.
Dambulla.

*Page* 394.—

**Allmania nodiflora** R. Br.

Var. *longipedunculata* Trim. is raised to specific rank by Gamble Fl. Madr. p. 1168 (1925). We have also vars. *angustifolia* and *Roxburghii* of the Fl. Brit. Ind.

*Page* 395.—For *Digera argensis* Forsk. read:

**D. muricata** Mart. in Nov. Act. Nat. Cur. XIII, p. 285 (1826). *Achyranthus muricata* Linn. Sp. Pl., ed. 2, 295 (1762). *A. alternifolia* Linn. Mant. p. 50 (1767). *Digera arvensis* Forsk. Fl. Acg. Arab. p. 15 (1775).

### 4. AMARANTUS *Linn.*

| | |
|---|---|
| Spinose . . . . . . . . . | 1. A. SPINOSUS. |
| Unarmed: | |
| Sep. usually 5; bracts exceeding the sep.: | |
| L. obtuse; sep. obovate . . . . . | *A. caudatus.* |
| L. acute; sep. oblong-lanceolate . . . | *A. frumentaceus.* |
| Sep. usually 2–3: | |
| Bracts awned, equalling or exceeding the sep.: | |
| Erect; some clusters of fls. in terminal spikes . . . . . . . | 2. A. GANGETICUS. |
| Diffuse; all clusters of fls. axillary . . | 3. A. MANGOSTANUS. |
| Bracts not awned, usually shorter than the sep.: | |
| Some clusters of fls. in terminal spikes . | 4. A. VIRIDIS. |
| All clusters of fls. axillary: | |
| Fruit ovoid, rugose, usually indehiscent . . . . . . . | 5. A. POLYGONOIDES. |
| Fruit globose, dehiscent . . . . | *A. Blitum.* |

*Page* 400.—

**Psilotrichum scleranthum** Thw.
Also in Travancore.

**Part III.**

*Page* 402.—

1. **Ærua javanica** Juss.

*A. persica* Merr., in Phil. Journ. Sc. XIX, p. 348 (1921), is based on *Iresine persica* Burm. but has only page priority over *I. javanica* Burm.

*Page* 405.—For *Alternanthera triandra* Lamk. read:

**A. sessilis** R. Br. Prodr. p. 417 (1810). *Gomphrena sessilis* Linn. Sp. Pl. p. 225 (1753). *Alternanthera triandra* Lamk. Encycl. I, p. 95 (1783). **Ponnankani,** *T.*

CHENOPODIUM *Linn.*

Herbs l. alt. fls. hermaphrodite; bracts and bracteoles wanting; perianth-lobes usually 5; stam. usually 5; anth. 2-celled; stigmas 2–5, sometimes connate below; fruit indehiscent.—Sp.

Stigmas 3 . . . . . . . . 1. *C. ambrosioides.*
Stigmas 2:
  Leaves toothed . . . . . . . 2. *C. murale.*
  Leaves subentire, mealy . . . . . . 3. *C. opulifolium.*

1. C. AMBROSIOIDES Linn. Sp. Pl. p. 219 (1753).

An erect herb up to 2 ft. high; lvs. 1–3 in. long, ovate to ovate-lanceolate in outline, shallowly lobed, thinly pubescent when young; infl. forming a terminal panicle; styles 3; seeds black.

Naturalised in the montane zone. Lindula (1882); Nanu-oya (1888); Haputale (1895); Hava Eliya (1920); Ohiya (1920); Dimbula (1920); Hakgala (1920). Fls. Jan., Sept.-Nov.

Found in most hot countries.

3. C. OPULIFOLIUM Schrad. in DC. Fl. Franc. V, p. 372 (1815).

There are no specimens of this at Peradeniya.

**Arthrocnemum indicum** Moq.

Gamble, Fl. Madr., distinguishes *A. glaucum* Auct. and *A. fruticosum* as follows:

Stems prostrate, the branches erect, stout; fruiting spikes ·2–·25 in. in diam., ·5–1·5 in. long; utricle crustaceous . . . . . . . . . 1. *indicum.*
Stems erect, the branches ascending, slender; fruiting spikes ·1–·15 in. in diam., ·5–1 in. long; utricle membranous . . . . . . . . . 2. *glaucum.*

It is possible that we have both species, but the erect specimens in the Peradeniya Herbarium are not in flower and were thought by Trimen to be young plants of *A. indicum* Moq.

A. GLAUCUM Auct. non Ung. Sternb. *A. fruticosum* Auct. non Moq.

C. E. Moss, in Journ. Bot. XLIX, p. 177, states that "records (of *A. glaucum*) from India and Angola are based on misapprehensions" while, on p. 178, he confines *A. fruticosum* Moq. to the Mediterranean.

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## PHYTOLACCACEÆ.

Carpels 2 . . . . . . . . . . *Phytolacca.*
Carpels 1 :
3 anth. in per.-segms. connate . . . . . *Hilleria.*
3 anth. in per.-segms. free :
Fruit a berry fleshy . . . . . . . *Rivina.*
Fruit dry, armed with 4 bristles . . . . *Petiveria.*

PHYTOLACCA OCTANDRA Linn. Sp. Pl., ed. 2, p. 631 (1763).
Raitungoda (1859); Hava Eliya (1920).
A native of Central America, escaped in S. Africa, India and Australia

For *Mohlana nemoralis* Mart. read:

HILLERIA LATIFOLIA H. Walt. Phyt. in Engl. Pflreich. IV, 83, p. 81 (1909). *Rivina latifolia* Lamk. Ill. I, p. 324 (1791). *Mohlana nemoralis* Mart. Nov. Gen. and Sp. III, p. 171 (1829–32); Trim. in Journ. Bot. XXIII, p. 173 (1885).
Not collected since 1884.
A native of S. America, naturalised in Tropical Africa, Madagascar and Mauritius.

RIVINA HUMILIS Linn. Sp. Pl. p. 121 (1753); Bot. Mag. t. 1786 (1816).
I have only seen this as a weed at Peradeniya, where it was collected by Gardner, and at Kandy. H. Walter quotes Badulla (Deschamps).
A hairy variety and one with yellow fruits occur at Peradeniya.

PETIVERIA ALLIACEA Linn. Sp. Pl. p. 342 (1753).
This species has been found as an escape at Peradeniya but is not yet naturalised.

*Page* 411.—For *Polygonum tomentosum* Willd. read:

1. **P. pulchrum** Blume Bijdr. II, p. 536 (1825); Danser in Bull. Jard. Buit., sér. 3, VIII, p. 222 (1927). *P. tomentosum* Willd. Sp. Pl. p. 447 (1799) non Schrank.

*Page* 413.—

5. **P. serrulatum** Lagasca.
Danser, l. c. p. 150, states that this is not Lagasca's plant and reduces it to *P. barbatum* sub-sp. *gracile* Danser for which he also quotes *P. flaccidum* Roxb.

For *Polygonum punctatum* Ham. read:

6. **P. nepalense** Meisn. Mon. Gen. Pol. p. 84 (1826); Danser l. c. p. 201. *P. punctatum* Ham. in Don. Prodr. p. 72 (1825) non Raf.

*Page* 415.—For *P. pedunculare* Wall. read:

10. **P. dichotomum** Blume Bijdr. II, p. 529 (1825); Danser in Bull. Jard. Buit., sér. 3, VIII, p. 222 (1927). *P. pedunculare* Wall. Cat. no. 1718 (1828).

### Rumex *Linn.*

Leaves not hastate :
  Inner fruiting sepals strongly toothed . . . 1. *R. nepalensis.*
  Inner fruiting sepals entire or subentire . . 2. *R. crispus.*
Leaves hastate . . . . . . . . 3. *R. Acetosella.*

For *R. obtusifolius* L. read :—

1. R. nepalensis Spreng. Syst. II, p. 159 (1825). *R. obtusifolius* Trim. Fl. Ceyl. III, p. 415 (1895) non Linn.

A single plant labelled *R. dentatus* was collected at Peradeniya by Trimen. There are no specimens from Nuvara Eliya.

A native of the mountains of Tropical Asia and Africa.

2. R. crispus Linn. Sp. Pl. p. 335 (1753).
Palugama, Uva (1883); no Nuvara Eliya specimens.
A native of Europe and N. Asia, introduced in Africa.

3. R. Acetosella Linn. Sp. Pl. p. 538 (1753).
Lindula; no specimens collected by Trimen.
A native of Europe and N. Asia, naturalised elsewhere.

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## CVI.—PODOSTEMONACEÆ

(*After J. C. Willis.*)

Fls. regular; perianth 3; stamens 3; carpels 3; thallus frondose, foliiferous, creeping, closely attached to rocks; secondary shoots of small rosettes of leaves on upper side of thallus; floral shoots arising from axial cupules . . . . 1. Lawia.
Fls. zygomorphic; perianth wanting; carpels 2 :
  Spathe erect, more or less cylindrical, opening at the apex by several teeth; fruit ribbed, dehiscent with many seeds.
    Thallus fucoid or dimorphic, usually freely floating; secondary shoots 1-flowered, with scaly bracts; fruit isolobous . . . . 2. Dicræa.
    Thallus thread or ribbon-like, creeping; secondary shoots erect, with several flowers; bracts dithecous, not scaley; fruit anisolobous. . 3. Podostemon.
  Spathe more or less prostrate, splitting along the upper side; thallus closely attached to the rock; secondary shoots usually prostrate when floriferous, 1-flowered, with small scaly bracts :
    Thallus crustaceous or ribbon-like, exogenously lobed or branched; seeds numerous; fruit dehiscent, iso- or aniso-lobous, ribbed, or smooth 4. Hydrobryum.
    Thallus ribbon-like, endogenously branched; seeds 2–4; fruit indehiscent, smooth . . 5. Farmeria.

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**Lawia zeylanica** Tul.; Willis in Ann. Perad. I, pp. 213, 307 tt. 9–13 (1902).

Guru-oya, near Teldeniya; Kelani-ganga, near Kitulgala.

Var. **Parkiniana** Willis l. c. p. 215 (1902).

Thallus smaller than in the type, more definitely branched, with long ribbon-like apical lobes, each terminated by one or two growing points; leaves usually 3–6 mm. long. Cupule with longer bristles; fruit as in last.

Hakkinda; Guru-oya.

Also in S. India (var. *malabarica* Willis) and Western India (var. *konkanica* Willis).

There are no specimens of this at Peradeniya and the description of this and other species taken from Willis.

## 2. DICRÆA *Thouars.*

Submerged herbs with the habit of *Fucus* and other seaweeds. Thallus various, usually freely floating from attached base, exogenously branched, with marginal, ultimately 1-flowered secondary shoots; primary axis very short, non-flowering, giving rise laterally by endogenous development to a thallus of phylogentic root nature, exogenously branched with root cap, ribbon-like, cup-like, filamentous, fucoid, often crisped or twisted, attached to the rock by a foot or by haptera, or by a creeping basal portion, or at all or most points, but usually with the distal parts drifting freely out in the water. Secondary axes numerous, endogenous on the upper sides of the thallus near the edge, or rarely in the central parts, consisting in the vegetative season each of a fascicle of small leaves with included evanescent axis, and all or some of them ultimately floriferous; vascular bundles leading to floriferous shoots, and immediately adjacent parts of tissue of the thallus, becoming woody in the flowering season, the rest of the tissue and the non-floriferous parts ultimately falling away (as in most herbarium specimens). Floriferous axes exserted, with 2–8 (usually about 4) distichous imbricated fleshy scaly bracts, the upper larger narrowly linear to broadly ovate or helmet shaped, sheathing thicker on the upper side, formed by the enlargement of the sheathing bases of the leaves and the fall or decay of the tips; flowers solitary, terminal enclosed in spathes, splitting irregularly at the tip, in the axils of bracts, opening when exposed to air. Flower zygomorphic, naked, enclosed before antithesis in a tubular, usually oblanceolate spathe, which opens irregularly at the tip, pedicellate, the pedicel lengthening as the fruit ripens and shedding its deciduous cortex. Stamens 2, rarely 1, monadelphous, with a fila-

mentous staminode on either side of the common stalk. Pollen didymous. Ovary symmetrical elliptical, 2-locular, with 2 equal or unequal subulate stigmas with small papillæ. Ovules numerous. Capsule isolobous, 8 or rarely 9–12 ribbed, the ribs on both valves decurrent into the pedicel, septifragal, both valves persistent. Seeds numerous.—Sp. 7; S.E. Asia and Madagascar.

*Page* 417.—For *Podostemon elongatus* Gardn. read:

1. **Dicræa elongata** Tul. in Ann. Sc. Nat., sér., IX, p. 102 (1849); Willis l. c. pp. 219, 340 tt. 14–18–20 (1902). *Podostemon elongatus* Gardn. in Calc. Journ. Nat. Hist. VII, p. 188 (1846).

Bambarabotuva-ganga.

For *P. algæformis* Trim. read:

2. **D. stylosa** Wight Ic. t. 1917 (1852); Willis l. c. pp. 225, 354 t. 22–24 (1902). *Podostemon algæformis* Trim. in Journ. Bot. XXIII, p. 173 (1885) non Benth.

Willis remarks p. 226: "This species as here defined, probably represents an aggregate of species which may ultimately be divided into at least three, if not many more."

Var. **fucoides** Willis l. c. p. 226. *Podostemon fucoides* Willis l. c. in syn.

Thallus chocolate-coloured, *Fucus*-like, crisped or undulated, broad, attached at base by a foot, and usually elsewhere by haptera or hairs. Stamens as long as ovary and stigmas. Stigma shorter than ovary. Pedicel of fruit 6–8 mm.

Hakkinda; Guru-oya.

Var. **laciniata** Willis l. c. p. 227. *Podostemon laciniatus* Willis l. c. in syn.

Thallus with the habit of that of *D. elongata*, but flattened, narrow, up to 5 mm. wide, with creeping basal part giving off freely floating branched laciniate thalli up to 50 cm. long. Floral buds, etc., as in the preceding variety.

Hakkinda; Guru-oya.

Also two other varieties in India.

*Page* 418.—

**Podostemon subulatus** Gardn.

Willis l. c. pp. 229, 328 tt. 14–16 (1902).

Also in S. India (var. *Sholaii* Willis).

4. **HYDROBRYUM** *Endl.*

Primary axis erect, non-floriferous in most cases, larger than in *Podostemon*. Thallus of phylogenetic root nature,

closely attached to the rock by hairs at all points, exogenously branched or lobed, ribbon-like or crustaceous lichen-like. Secondary shoots acropetally formed, endogenous, at first, in vegetative condition with included evanescent axis, later some or all floriferous, the axis emerging, apiscopic, and usually prostrate on the thallus, 1-flowered. Leaves in vegetative condition simple, subulate, up to 10 cm. long; in floral buds some of them ultimately forming scaly bracts by the enlargement of sheathing bases and fall of the leafy tips. Bracts 2–8, usually about 6, thicker or upper side. Spathe boat-shaped, enlarging at outer end, usually prostrate, and opening by a simple or compound slit on the upper side. Flower on emergence from spathe erect or nearly prostrate, stalked or sessile. Stamens 2 or 1, equalling or exceeding ovary. Pollen didymous. Ovary more or less globose; stigmas usually rather large, subulate or lobed or dentate, sometimes obcuneate, entire or lancerate. Fruit small or stalked, smooth or 8 or 12 ribbed, isolobous or anisolobous, with many seeds.

Thallus plate-like; stamens short . . . 1. H. OLIVACEUM.
Thallus ribbon-like, branched; stamens of varying lengths . . . . . . . 2. H. LICHENOIDES.

*Page* 418.—For *Podostemon olivaceus* Gardn. read:

1. **Hydrobryum olivaceum** Tul. in Ann. Sc. Nat. l. c. p. 104 (1849); Willis l. c. pp. 239, 379 t. 32–36 (1902). *Podostemon olivaceus* and *griseus* Gardn. in Calc. Journ. Nat. Hist. VII, p. 181 (1846).
Talawakele.
Also in S. India (var. *anamalaiense* Willis).

2. **H. lichenoides** Kurz, in Journ. As. Soc. Beng. XII, p. 103 (28.5.73); Willis l. c. pp. 242, 375 t. 28, 31–2 (1902). *Podostemon acuminatus* and *microcarpus* Wedd. in DC. Prodr. XVII, pp. 75 and 76 (16.10.73).

Primary axis short, with few leaves, non-floriferous. Thallus ribbon-like, up to 15 cm. long, regularly branched. Branches acropetal, alternate, again branched with the first secondary lobe on the basiscopic side. Secondary shoots numerous at axils and on sides of thallus lobes, in vegetative condition with leaves 3–6 mm. in flowering condition prostrate or rarely erect, with 4–8 scaly bracts with deciduous tips. Spathe boat-shaped, dehiscent on upper side, the dehiscence sometimes beginning at the tip, or forming an upper smaller and lower larger lobe. Flower sessile or shortly stalked. Stamens 2, or rarely 1, equalling or exceeding the ovary and stigmas. Staminodes shorter than the ovary. Ovary globose or ellipsoidal; stigmas ovate to subulate or to obcuneate, usually more or less lobed or toothed, or even lacerate. Pedicels of ripe fruit 1–8 mm.; capsule

1–2 mm., globular or ellipsoidal, shallowly and broadly 8-ribbed, the ribs often confluent below the apex of the capsule. Fruit anisolobous, with ribs on persistent valves decurrent into pedicel, sometimes with an open space between them.

Var. **kelense** Willis l. c. p. 245. *Podostemon kelensis* Willis, in Trim. Fl. Ceyl. V, p. 386 (1900).

Pedicel 1-3 mm. Capsule 1-2 mm. Ribs clearly marked, confluent below apex. Stamens as long as gynæcium.

Kehel-ganga, Dikoya.
Also in Southern and Eastern India, our variety endemic. This is represented only by a painting in Herb. Perad.

5. **FARMERIA** *Willis.*

Primary axis small, non-floriferous. Thallus of phylogenetic root nature, closely attached to the rock by hairs and occasional haptera, narrow ribbon or thread-like, flattened, endogenously branched in acropetal succession right and left, the branches appearing rather far back upon the thalli on the anterior side of the secondary shoots. Secondary shoots as in *Hydrobryum*, most ultimately floriferous. Bracts prostrate, thicker on upper side, usually about 6, scaly with deciduous tips. Spathe as in *Hydrobryum*, splitting on upper side. Flower on opening of spathe enclosed, more or less erect, sessile or (?) slightly stalked. Stamens 1 (? more). Pollen didymous. Ovary more or less globose, with thickened placenta towards the upper end, bearing two or four ovules on the under side; lower loculus more or less abortive. Stigmas large, subulate. Fruit small, the upper lobe larger, in *F. metzgerioides* 2-seeded, sessile, indehiscent; in *F. indica* 4-seeded, stalked, 8–10-ribbed, dehiscent.

*Page* 419.—For *Podostemon metzgerioides* Trim. read:

**Farmeria metzgerioides** Willis in Ann. Perad. I, pp. 247, 397 tt. 25–28 (1902). *Podostemon metzgerioides* Trim. Fl. Ceyl. III, p. 419 (1895).
?Kelaniganga at Kitulgala; Guru-oya; Pasdun Korale.

*Page* 421.—For *Bragantia* Lour. read:

1. **APAMA** *Lamk.*

For *Bragantia Wallichii* Br. read:

**Apama siliquosa** Lamk. Encycl. I, p. 91 (1783). *Bragantia Wallichii* R. Br. in Wall. Cat. no. 7415 (1828); Duchart. in DC. Prodr. XV, I, p. 430 (1864). **Visakumba,** *S.* **Alpam,** *T.*
A supposed remedy for snake bite.

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ARISTOLOCHIA ANGUICIDA Burm. f. Fl. Ind. p. 191 (1768) non Jacq.

**Part III.**

This was partly based on Ceylon specimens. *A. anguicida* Jacq. in a tropical American species.

*Page* 424.—

1. **Piper longum** Linn.
Vettilai is given as the Tamil name by Gamble, but Trimen refers it to *P. Betle* Linn.

*Page* 429.—For *Piper subpeltatum* Willd. read:

1a. **HECKERIA** *Kunth* (non Raf.).
(*Pothomorphe* Miq.)

Perennial, more or less succulent herb; l. alt., entire; petiole sheathing; stipules wanting; fl. very minute, hermaphrodite, sessile, in panicled, axillary spikes; bracts pedicelled, peltate; perianth 0; stam. 2; anth. small, 2-celled; ovary free, 1-celled, with a solitary erect ovule; stigmas 3; fruit a small, indehiscent, trigonous, flat-topped berry; seeds solitary; albumen copious, flowery.—Sp. 8; mostly S. American, 1 in the Old World.

**Heckeria umbellata** Kunth, in Linnæa XIII, p. 569 (1839). *Piper umbellatum* Linn. Sp. Pl. p. 30 (1753); Bak. & Wight in Fl. Trop. Afr. VI, p. 144 (1909). *Heckeria subpeltata* Kunth in Linnæa XIII, p. 571 (1830); Engl. in Engl. u. Prantl. Nat. Pfl. III, I, p. 6 (1894); Gamble Fl. Madr. p. 1208 (1925). *Piper subpeltatum* Willd. Sp. Pl. I, p. 166 (1798). *Pothomorphe subpeltata* Miq. Comm. Phyt. p. 37 (1840).

2. **PEPEROMIA** *Ruiz. & Pav.*

L. glabrous:
  L. fleshy; not cordate at base:
    L. alt., elliptic to oblong-lanceolate, 3–5 nerved at base . . . . . . 1. P. PSEUDO-RHOMBEA.
    L. alt. or opp., rotundate-elliptic, obscurely veined . . . . . . 2. P. WIGHTIANA.
    L. opp. or whorled, elliptic to oblong-elliptic, 3-nerved at base . . . 3. P. CONFUSA.
  L. thin, succulent, cordate and 5-nerved at base . . . . . . . . 3a. *P. Fraseri.*
L. pubescent:
  L. opp., prominently 3-nerved . . . 4. P. DINDIGULENSIS.
  L. whorled or rarely opp., nerves invisible . 5. P. REFLEXA.

3a. P. FRASERI C. DC. in Journ. IV, p. 140 (1866). ?*P. pellucida* H. B. K. Nov. Gen. and Sp. I, p. 64 (1815).

A herb, about 8 in. high; l. broadly ovate, 5–7-nerved from the base, thin, succulent; laminal-glabrous, 1 in. long, petiole $\frac{3}{4}$ in. long; spikes leaf-opposed, 1–1$\frac{1}{2}$ in. long; fls. rather distant, not sunk in the rachis; fruits small, blackish-green.

A common weed in shady places near houses in the low moist region. Fl. Aug.; pale green with yellow anthers.

A native of Tropical America; also naturalised in India if it is the same as the *P. pellucida* of Haines and of Gamble.

*Page* 433.—For *Myristica* Linn. read:

Male fls. few, moderate sized, in close racemes or clusters . . . . . . . . . 1. MYRISTICA.
Male fl. numerous, very small, in large panicles . 2. HORSFIELDIA.

## 1. **MYRISTICA** *Linn.*

Trees; l. alternate; entire, spreading distichously, exstipulate; infl. of cymes, umbels or small panicles, from the axils of fallen or living leaves; fls. comparatively large, urceolate or ovoid, stalked; perianth 3-lobed; stam. 10–30, connate into a column at base; aril much cut into lacerate linear segments.—Sp. 83; Trop. Asia and Oceania.

*Page* 434.—For *M. laurifolia* Hk. f. & Thw. read:

1. **M. dactyloides** Gaertn. Fruct. p. 194 (1788). *M. laurifolia* Hk. f. & Th. Fl. Ind. p. 163 (1855). **Perimavara,** *S.* (F. Lewis). Endemic.

## 2. **HORSFIELDIA** *Willd.*

Male flowers in lax panicles; female flowers in short thick panicles or racemes, from the axils of fallen or living leaves; fls. usually minute, yellow, globose, fragrant, sessile or stalked; stam. 6–30, united into a column; aril entire or scarcely lobed.—Sp. 52; Trop. Asia and Oceania.

*Page* 435.—For *Myristica Horsfieldia* Bl. read:

1. **Horsfieldia Iryaghedhi** Warb. in Nov. Act. Nat. Cur. LXVIII, p. 288 (1897). *Myristica Iryaghedhi* Gaertn. Fruct. I, p. 196 (1788). *Horsfieldia odorata* Willd. Sp. Pl. IV, p. 872 (1805). *Myristica Horsfieldia* Blume Bijdr. p. 577 (1825). **Thalan,** *S.*

For *Myristica Irya* Gaertn. read:

2. **Horsfieldia Irya** Warb. in Ber. Deut. Bot. Ges. XIII, p. 85 (1895); in Nov. Act. Nat. Cur. LXVIII, p. 317 (1897). *Myristica Irya* Gaertn. Fruct. I, p. 195 (1785).

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**Cryptocarya Wightiana** Thw.
Endemic.

*Page* 442.—

4. **Cinnamomum litseæfolium** Thw.
Near Gartmore Estate, Maskeliya.

5. **C. citriodorum** Thw.
Towards Bottumba in Sabaragamuva (F. Lewis).

**Machilus macrantha** Nees. **Kolla-mavu,** *T.* (Gamble).

*Page* 448.—For *Litsea* Lam. read:

Fertile stamens 9–12 or more; involucral bracts persistent in flower; lvs. alt. or sub-opposite, penninerved . . . . . . . . . . 7. LITSEA.
Fertile stamens 6; involucral bracts early deciduous; lvs. alternate or subverticillate, 3-nervèd at base . 7a. NEOLITSEA.

*Page* 449.—For *Litsea chinensis* Lam. read:

2. **L. glutinosa** C. B. Rob. in Phil. Journ. Sc. Bot. VI, p. 321 (1911). *L. tersa* Merr. in Phil. Journ. Sc. I, p. Suppl. p. 57 (1906), excl. syn. *Glabraria tersa* Linn. *Litsea chinensis* Lamk. Encycl. III, p. 574 (1791). *Tetranthera apetala* Roxb. Cor. Pl. II, p. 25 t. 147 (1798). *Sebifera glutinosa* Lour. Fl. Cochinch. II, p. 783 (1790). *Litsea sebifera* Pers. Syn. II, p. 4 (1807). *Laurus involucrata* Koenig, in Retz. Obs. VI, p. 27 (1791) non Lamk.

Merrill (Int. Rumph. p. 235) states that *Glabraria tersa* Linn. is some Bombacaceous plant. The third volume of Lamark's Encyclopedia was published in 1791 and not 1789 as stated by Trimen.

*Page* 450.—For *L. cauliflora* Trim. read:

**L. longifolia** Bth. & Hk. f. Gen. Pl. III, p. 161 (1883). *Tetranthera cauliflora* Moon Cat. p. 69 (1824) nomen. *T. longifolia* Nees. Syst. Laurin. p. 528 (1836).

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9. **L. iteodaphne** (Thw.) Hk. f. **Kalu-nika,** *S.*

10. **L. Gardneri** (Thw.) Meissn. **Talan,** *S.*

### 7a. **NEOLITSEA** *Merr.*

(*Tetradenia* Nees. non Benth., *Darwinia* Dennst. non Rudge).

Evergreen trees; l. alt., 3-nerved at base; fls. diœcious, in bracteate umbels arranged in axillary fascicles; bracts 4, deciduous; perianth-lobes 4, deciduous; stam. 6, all introrse, represented by staminodes in the fem. fls., fruit a berry.—Sp. 28; Trop. Asia.

For *Litsea fuscata* Thw. read:

1. **Neolitsea fuscata** (Thw.). *Litsea fuscata* Thw. Enum. p. 238 (1861).

For *Litsea zeylanica* Nees read:

2. **Neolitsea involucrata** (Lamk.). *Laurus involucratus* Lamk. Encycl. III, p. 445 (1791). *Darwinia quinqueflora* Dennst. Schluess. Hort. Mal. p. 31 (1818). *Litsea zeylanica* Nees in Amœn. Bot. Bonn. I, p. 58 (1823). *Neolitsea zeylanica* Merr. in Phil. Journ. Sc. Bot. I, Suppl. p. 57 (1906).

*Page* 453.—For *Hernandia peltata* Meissn. read:

**H. ovigera** Linn. Amœn. Acad. IV, p. 125 (1759); Merr. in Phil. Journ. Sc. XXIX, p. 370 (1926). *H. peltata* Meissn. in DC. Prodr. XV, p. 263 (?1864).

*Page* 458.—

1. **WIKSTRŒMIA** *Endl.* (non Spreng.).

(*Capura* Linn.)

Plant canescent . . . . . . . . W. CANESCENS.
Plant glabrous . . . . . . . . *W. indica.*

W. INDICA C. A. Mey in Bull. Phys.-Math. Acad. Petersb. I, p. 357 (1843). *Daphne indica* Linn. Sp. Pl. p. 357 (1753). *D. viridiflora* Wall. Cat. no. 1049 (1828). *Wikstrœmia viridiflora* Meissn. in Denkschr. Bot. Ges. Regensb. III, p. 286 (1841).

A shrub, up to 6 ft. high; leaves $\frac{3}{4}$–$1\frac{1}{2}$ in. long, glabrous, oblong-spathulate, lateral veins ascending; petioles under $\frac{1}{10}$ in. long; fls. in terminal fascicles; perianth glabrous; fruit red, pulpy.

Peradeniya; Hakkinda, wild but not native. Fls. May, Aug.
A native of India and China; naturalised in Mauritius.
This is the Peradeniya plant mentioned by Trimen as *W. canescens*.

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**ELÆAGNUS** *Linn.*

I have not seen Servettaz's paper, which appears to have been followed by Gamble.

*Page* 462.—For *Loranthus* Linn. read:

Fl. without a pair of bractlets within the bract . 1. LORANTHUS.
Fl. with a pair of bractlets within the bract . . 1a. ELYTRANTHE.

*Page* 464.—

4. **Loranthus Hookerianus** W. & A.
On *Mallotus philippinensis* (Fischer).

*Page* 465.—For *Loranthus Scurrula* L. read:

5. **Loranthus buddleoides** Desr. in Lamk. Encycl. III, p. 600 (1791); Gamble Fl. Madr. p. 1251 (1925). *L. Scurrula* Trim. Fl. Ceyl. III, p. 465 (1895) non Linn.

6. **L. cordifolius** Wall.
Rikillagasgoda.

7. **L. tomentosus** Heyne.
On *Neolitsea involucrata* (Gamble).

*Page* 466.—

8. **L. cuneatus** Heyne.
On *Citrus maxima* Merr.

9. **L. sclerophyllus** Thw.
Naminakula. On coffee.

*Page* 468.—For *L. longiflorus* Desr. read:

12. **L. falcatus** Linn. f. Suppl. p. 211 (1781). *L. longiflorus* Desr. in Lamk. Encycl. III, p. 598 (1791).
On *Acacia, Anona reticulata,* etc.

*Page* 469.—

15. **L. Gardneri** Thw.
On *Acacia, Anona reticulata,* etc.

## 1a. ELYRANTHE *Blume.*

Leaves opp.; fls. in spikes or pairs with a bract and 2 bracteoles; cal. tubular, truncate; cor. tubular, shortly 6-lobed, lobes reflexed in flower; stam. 6; stigma capitate.—Sp. 30; Tropical Asia.

For *Loranthus loniceroides* Linn. read:

1. **Elytranthe parasitica** (Linn.). *E. loniceroides* G. Don. Gen. Syst. III, p. 427 (1834); Gamble Fl. Madr. p. 1255 (1925). *Lonicera parasitica* Linn. Sp. Pl. p. 175 (1753). *Loranthus loniceroides* Linn. Sp. Pl., ed. 2, p. 473 (1762). *L. parasiticus* Druce in Rep. Bot. Exch. Cl. 1913, p. 420 (1914).

For *Loranthus capitellatus* W. & A. read:

2. **Elytranthe capitellata** Engl. in Engl. u. Prantl. Nat. Pfl. III, I, p. 188 (1889); Gamble Fl. Madr. p. 1255 (1925). *Loranthus capitellatus* W. & A. Prodr. p. 382 (1834).
On *Mangifera indica* (Gamble).

*Page* 470.—For *Viscum* L. read:

Anthers opening by many pores . . . . . 2. VISCUM.
Anthers opening longitudinally . . . . . 3. KORTHALSELLA.

1. **V. orientale** Willd.
On *Albizzia, Pongamia, Wrightia,* berry purple (Gamble).
Gamble, Fl. Madr. p. 1257, separates this from *V. verruculosum* W. & A. as follows:

Berry globose, very minutely papillose; leaves obovate-elliptic or oblong, petioled, obtuse or slightly acute, attenuate at base, 3- rarely 5-ribbed, 1–2 in. long, ·4–1·5 in. broad; lateral flowers of triads usually male, central sometimes all female . . . . . . . . . . 2. *orientale.*
Berry oblong:
Berry especially when young, covered with little warts; leaves obovate or oblong, obtuse or slightly acute, attenuate at base to a short petiole, ·5–1·5 in. long, ·4–·7 in. broad, 3-rarely 5-ribbed; flowers fascicled, in peduncled triads, the lateral usually male . . 4. *verruculosum.*

### 3. **KORTHALSELLA** *v. Tiegh.*

Branches green, flattened, jointed; leaves represented by scales at the joints; fls. axillary, monœcious; perianth-segms. 3; stam. 3; anth. 2-celled, introrse, longitudinally dehiscent; stigma small.

For *Viscum japonicum* Thunb. read:

**Korthalsella opuntia** Merr. in Tok. Bot. Mag. XXX, p. 68 (1916). *K. japonica* Engl. in Engl. u. Prantl. Nat. Pfl., Nachtr. I, p. 138 (1897); Gamble Fl. Madr. p. 1256 (1925). *Viscum opuntia* Thunb. Fl. Jap. p. 64 (1784). *V. japonicum* Thunb. in Trans. Linn. Soc. II, p. 329 (1794). *Bifaria japonica* v. Tiegh. in Bull. Soc. Bot. Fr. XLIII, p. 173 (1896). *Pseudixus japonicus* Hayata Ic. Pl. Formos. V, p. 188 (1915); in Tok. Bot. Mag. XXX, p. 69 (1916).

On *Rhododendron, Vaccinum, Ilex* (Gamble).

*Bifaria attenuata* v. Tiegh l. c. p. 176 and *B. Walkeri* v. Tiegh l. c. p. 175 from Ceylon are unknown to me.

*Page* 475.—

Santalum album Linn. Srigandam T. (Gamble).

Native of the East Indies from Eastern Java to Timor according to Fischer (Kew Bull. 1927, pp. 200–202).

Moon's specimens were probably from Haragama, where there are still a few trees by the roadside.

# PART IV

*Page* 1.—

## CXX.—EUPHORBIACEÆ.

Add to key:

| | | |
|---|---|---|
| Infl. of 2–3-chotomous cymes: | | |
| Fruit capsular; stamens numerous | 19. | JATROPHA. |
| Fruit drupaceous; stamens 8–20 | 19a. | *Aleurites.* |
| Infl. of terminal spikes or racemes | 20. | CROTON. |
| Infl. of axillary spikes, racemes, or panicles: | | |
| Petals connate | 21. | GIVOTIA. |
| Petals distinct: | | |
| Fruit drupaceous | | *Microdesmis.* |
| Fruit capsular: | | |
| Stam. 3–5, connate | 22. | TRIGOSTEMON. |
| Stam. 15–30, distinct: | | |
| Styles slender, entire | | *Codiæum.* |
| Styles 2-fid. | 23. | OSTODES. |

And:

| | | |
|---|---|---|
| Anth. dorsifixed: | | |
| Stamens central in the flower | 34. | MALLOTUS. |
| Stamens surrounding a naked receptacle | | *Cœlodiscus.* |

And:

| | | |
|---|---|---|
| Fil. connate in a column or in bundles: | | |
| Calyx of female fl. spathaceous | | *Ricinus.* |
| Calyx of fem. fl. of 5–12 sepals: | | |
| Sep. of fem. fl. entire | 37. | HOMONOIA. |

And:

| | | |
|---|---|---|
| Small calyx of 2–3 distinct sepals: | | |
| Stam. 6–50 | | *Omalanthus.* |
| Stam. 3 | 41. | SAPIUM. |

*Page* 4.—

### 1. EUPHORBIA *Linn.*

| | | |
|---|---|---|
| Trees and shrubs with green fleshy branches: | | |
| Branches angular, armed. | | |
| Styles connate $\frac{1}{2}$ way up: | | |
| Leaves $\frac{1}{4}$–$\frac{1}{2}$ in. long | 1. | E. ANTIQUORUM. |
| Leaves 6–12 in. long | 1a. | *E. neriifolia.* |
| Styles almost free | 2. | E. TORTILIS. |
| Branches cylindric, unarmed | 2a. | *E. Tirucalli.* |

*Page* 6.—

Add to key:

L. under $\frac{1}{2}$ in., usually glabrous above:
Capsule $\frac{1}{30}$ in. diam., pubescent . . . 8. E. THYMIFOLIA.
Capsule $\frac{1}{16}$ in. diam., glabrous . . . *E. microphylla.*

3. **E. Atoto** Forst.
Kalutara (Moon).

*Page* 12.—

**Cleistanthus collinus** Bth. **Wodayu, Wodan,** *T.* (Gamble). Also in India.

*Page* 16.—For *Sauropus albicans* Bl. read:

**S. androgynus** Merr. in Pro. Bur. Phil. Bull. I, p. 30 (1903). *Cluytia androgyna* Linn. Mant. p. 128 (1767). *Sauropus albicans* Bl. Bijdr. p. 596 (1825).

*Page* 17.—For *Phyllanthus* L. read:

Fruit a dry capsule of 3 2-valved cocci:
Calyx-lobes 5:
Stam. 5; fil. connate; shrub . . . 7a. NEOPELTANDRA.
Stam. 3; fil. connate or free; herbs or shrubs . . . . . . . 8. PHYLLANTHUS.
Calyx-lobes 4 in male fls.; stam. 4:
Fil. connate; calyx-lobes 6 in female fls.; shrubs . . . . . . . 8a. REIDIA.
Fil. free; calyx-lobes 4 in female fls.; trees . . . . . . . 8b. PROSORUS.
Fruit a berry:
Fruit small, fleshy, with 6–12 crustaceous seeds; ovules superposed; calyx-lobes 5 . 8c. KIRGANELIA.
Fruit large, of 3–6 hard cocci in a fleshy epicarp:
Calyx-lobes 5–6; stam. 3; fil. connate . . 8d. EMBLICA.
Calyx-lobes; stam. 4; fil. free . . . 8e. *Cicca.*

7a. **NEOPELTANDRA** *Gamble.*

Slender undershrubs; leaves membranous; stip. small, ciliate, caducous; male fls. in short bracteate racemes; female fls. solitary; calyx-lobes 5; disk saucer-shaped; stam. 5; fil. connate below into a column; anthers 2-celled, dehiscing longitudinally; pistillode 0; fruit a 3-celled capsule.

*Page* 18.—For *Phyllanthus Thwaitesianus* Muell. Arg. read:

**Neopeltandra parvifolia** (Wight). *Peltandra parvifolia* Wight Ic. t. 1892 (1852). *P. flexuosa* Thw. Enum. p. 281 (1860). *Phyllanthus Thwaitesianus* Muell. Arg. in DC. Prodr. XV, p. 341 (1866).

## 8. PHYLLANTHUS *Linn.* (Emend. Gamble).

| | |
|---|---|
| Shrubs or small trees : | |
| Leaves green beneath : | |
| Anth. cells opening by slits ; young parts glabrous ; fruit $\frac{1}{4}$ in. ; lvs. oblong . | 1. P. POLYPHYLLUS. |
| Anth. with transverse dehiscence ; young parts finely pubescent ; fruit $\frac{1}{8}$ in. ; l. lanceolate, light green . . . | 2. P. MYRTIFOLIUS. |
| Leaves glaucous beneath, dark green above . . . . . . . | 3. P. DEALBATUS. |
| Herbs : | |
| Capsule muriculate ; female fls. subsessile ; anth. dehiscing vertically . . | 4. P. URINARIA. |
| Capsule smooth : | |
| Anth. dehiscing vertically ; female fls. pedicellate : | |
| L. under $\frac{1}{2}$ in. . . . . . | 5. P. MADERASPATENSIS. |
| L. over $\frac{3}{4}$ in. . . . . . | 6. P. RHEEDII. |
| Anth. dehiscing transversely : | |
| Perennial ; fil. free ; stip. peltate . | 7. P. GARDNERIANUS. |
| Annual ; fil. connate ; stip. lanceolate ; female fls. shortly pedicellate : | |
| L. oblong-oval . . . . . | 8. P. NIRURI. |
| L. rotundate . . . . . | 9. P. ROTUNDIFOLIUS. |

3. **P. dealbatus** sp. nov.*

Small tree, 8–10 ft. high ; bark grey ; young parts glabrous ; l. distichous, subsessile, $\frac{1}{2}$–$\frac{3}{4}$ in. long, about $\frac{1}{4}$ in. broad, glabrous, dark green above, glaucous beneath, cuneate at base, acute at apex ; stip. minute ; male fls. pedicellate ; calyx 6-lobed ; stamens 3, united into a column, vertically dehiscent ; female fls. shortly pedicellate ; calyx-lobes 6 ; fruit $\frac{1}{4}$ in. diam., dehiscent ; seeds trigonous.

Rasagala, Balangoda. Fl. Sep.–Jan. ; green.
Endemic.

*Page 22.*—For *P. simplex* Retz. read :

7. **P. Gardnerianus** Baill. Études Gen. Euph. p. 628 (1858) ; Gamble Fl. Madr. p. 1290 (1925). *Macræa Gardneriana* Wight Ic. t. 1902 f. 3 (1852). *M. oblongifolia* Wight, l. c. f. l. nec *P. oblongifolius* Dennst. nec Pax. *P. Gardneri* Thw. Enum. p. 282 (1860). *P. simplex* Thw. l. c. ; Trim. Ceyl. IV, p. 22 (1898) non Retz.

## 8a. REIDIA *Wight.*

(*Eriococcus* Hassk.)

Shrubs ; stip. small, often numerous and persistent ; fls. fascicled, the male with long pedicels widening upwards ;

---

* *P. myrtifolii* affinis, foliis latioribus, subtus dealbatis differt.—Typus : Rasagala, Balangoda, *Trimen.*

calyx-lobes 4 in male, 6 in female fls. which are persistent and sometimes enlarged in fruit; disk in male fls. of 4 glands alternating with the calyx-lobes or of 2 large scales, in female fls. of 6 glands combined in a fleshy ring or cup; stamens 4; fil. united; anthers horizontally dehiscent; pistillode present; ovary with 2 ovules in each cell; styles 3, 2-fid; fruit a capsule.

*Eriococcus* Hassk. is an older name, but *Reidia* Wight has been adopted by Gamble and other authors and should be added to the *nomina conservanda.*

*Page* 23.—For *Phyllanthus Baillonianus* Muell. Arg. read:

1. **Reidia cordifolia** (Baill.). *Epistylium cordifolium* Baill. Ét. Euph. p. 648 (1858). *Phyllanthus Baillonianus* Muell. Arg. in Linnæa XXXII, p. 47 (1863). *Reidia Bailloniana* Gamble Fl. Madr. p. 1293 (1925).

*Page* 24.—For *Phyllanthus anabaptizatus* Muell. Arg. read:

2. **Reidia polyphylla** Wight Ic. t. 1904 f. 4 (1852). *Epistylium zeylanicum* Baill. Ét. Euph. p. 648 (1858). *E. polyphyllum* Thw. Enum. p. 283 (1860). *Phyllanthus anabaptizatus* Muell. Arg. in DC. Prodr. XV, p. 421 (1866).

For *Phyllanthus oreophilus* Muell. Arg. read:

3. **Reidia montana** (Thw.). *Epistylium montanum* Thw. Enum. p. 283 (1860). *Phyllanthus oreöphilus* Muell. Arg. in Linnæa XXXII, p. 49 (1863).

*Page* 25.—For *Phyllanthus longiflorus* Heyne read:

4. **Reidia ovalifolia** Wight Ic. 1904 f. 3 (1852). *Epistylium phyllanthoides* Baill. Ét. Euph. p. 648 (1858). *Phyllanthus Heyneanus* Muell. Arg. in Linnæa XXXII, p. 49 (1863). *P. nephradenius* Muell. Arg. in DC. Prodr. XV, p. 423 (1866). *P. longiflorus* Heyne in Wall. Cat. no. 2905 (1830); Hk. f. in Fl. Brit. Ind. V, p. 302 (1890). *Reidia longiflora* Gamble Fl. Madr. p. 1293 (1925).

For *Phyllanthus hakgalensis* Thw. read:

5. **Reidia hakgalensis** (Thw.). *Phyllanthus hakgalensis* Thw. ex Trim. in Journ. Bot. XXIII, p. 242 (1885).

*Page* 26.—For *Phyllanthus cinereus* Muell. Arg. read:

6. **Reidia cinerea** (Muell. Arg.). *Phyllanthus cinereus* Muell. Arg. in Linnæa XXXII, p. 48 (1863).
Ritigala?; Rangala.

For *Phyllanthus affinis* Muell. Arg. read:

7. **Reidia affinis** (Muell. Arg.). *Phyllanthus affinis* Muell. Arg. l. c.

### 8b. **PROSORUS** *Dalz.*

Deciduous trees; male flowers in axillary fascicles; female fls. solitary; calyx-lobes 4; disk annular, fleshy; stamens 4; filaments free; anthers vertically dehiscent; styles short, bifid; fruit a 6-seeded capsule; seeds trigonous, blue.

*Page 27.*—For *Phyllanthus indicus* Muell. Arg. read:

1. **Prosorus indica** Dalz. in Hk. Journ. Bot. IV, p. 346 (1852). *Securinega hysterantha* Boj. Hort. Maurit. p. 278 (1837). *Phyllanthus indicus* Muell. Arg. in Linnæa XXXII, p. 51 (1863).

For *Phyllanthus cyanospermus* Muell. Arg. read:

**Prosorus cyanosperma** Thw. Enum. p. 281 (1860). *Croton cyanospermus* Gaertn. Fruct. II, p. 120 (1891). *Phyllanthus cyanospermus* Muell. Arg. in Linnæa XXXII, p. 51 (1863).

### 8c. **KIRGANELIA** *Juss.*

Shrub; leaves distichous; stip. lanceolate; male and female fls. mixed in fascicles; calyx 5; disk of 5 glands; stam. in 2 whorls, the outer whorls free, the inner connate; anthers dehiscing vertically; ovary 4–5-celled; stigmas minute, 2-lobed; ovules 2 in each cell; fruit a berry.

*Page 19.*—For *Phyllanthus reticulatus* Poir. read:

**Kirganelia lineata** (Willd.). *Zizyphus lineatus* Willd. Sp. Pl. I, p. 1102 (1797). *Phyllanthus reticulatus* Poir. Encycl. V, p. 298 (1804). *Kirganelia reticulata* Baill. Ét. Euph. p. 113 (1858); Gamble Fl. Madr. p. 1294 (1925). *K. multiflora* Baill. l. c. ?*Rhamnus vitis-idæa* Burm. f. Fl. Ind. p. 61 (1768).

### 8d. **EMBLICA** *Gaertn.*

Tree; l. small, distichous; stipules minute; male and female fls. mixed in fascicles; calyx-segments 5–6, of male 5–6 minute glands, of female fls. cup-like, lacerate; stam. 3; fil. connate; anthers vertically dehiscent; ovary 3-celled; fruit fleshy; seeds 6, trigonous.

For *Phyllanthus Emblica* Linn. read:

**Emblica officinalis** Gaertn. Fruct. II, p. 122 (1791); Gamble Fl. Madr. p. 1295 (1925). *Phyllanthus Emblica* Linn. Sp. Pl. p. 982 (1763) pp.

For *Phyllanthus longifolius* Jacq. read:

Cicca *Linn.*

Cicca acida Merr. Int. Rumph. p. 314 (1917). *Averrhoa acida* Linn. Sp. Pl. p. 428 (1753). *Phyllanthus emblica* Linn. l. c. p. 982 pp.

*Cicca disticha* Linn. Mant. I, p. 124 (1767). *Phyllanthus longifolius* Jacq. Hort. Schoenbr. II, p. 36 (1762). *P. distichus* Muell. Arg. in DC. Prodr. XV, p. 413 (1866). *P. acidus* Skeels in U.S. Dept. Agric. Bur. Pl. Ind. Bull. 148, p. 17 (1909).

*Page 28.*—

9. **GLOCHIDION** *Forst.*

Capsule 5–8-locular, very obscurely lobed; stam. 5–6; style short, caducous (*Eu-glochidion*) . . . . . . . . 1. G. ZEYLANICUM.
Capsule 3-locular, lobed; stam. 3–4; style longer subpersistent (*Hemi-glochidion*):
  Perianth of female fls. glabrous:
    Style not exserted; leaves larger, very thick; stam. 4 . . . . . . 2. G. CORIACEUM.
    Style exserted; stam. 3:
      Style less than twice as long as the perianth:
        Leaves more or less acuminate; fruit $\frac{1}{4}$–$\frac{1}{3}$ in.:
          Leaves unequal-sided; female fls. subsessile; calyx of male fls. 5-lobed . . . . . . . 3. G. PYCNOCARPUM.
          Leaves not unequal-sided; female fls. stalked; calyx of male fls. 6-lobed . . . . . . . 4. G. STELLATUM.
        Leaves not acuminate; fruit large, nearly $\frac{1}{2}$ in. . . . . . 5. G. PACHYCARPUM.
      Style twice or more than twice as long as the perianth:
        Leaves not acuminate, equal-sided; style twice as long as the perianth . . . . . . . 6. G. NERVOSUM.
        Leaves acuminate; style more than twice as long as the perianth:
          Tertiary veins inconspicuous . . 7. G. ACUTIFOLIUM.
          Tertiary veins conspicuous . . 8. G. NEMORALE.
  Perianth of male and female fls. pilose:
    Style twice as long as the perianth; leaves slightly acuminate . . . . . 9. G. MONTANUM.
    Style more than twice as long as the perianth; leaves acuminate:
      Style glabrous:
        Leaves $1\frac{1}{2}$–3 in. long, elliptic . . 10. G. GARDNERI.
        Leaves $4\frac{1}{2}$–7 in. long, lanceolate-oblong; male fls. pedicelled . . *G. nemorale.*
      Style hairy, 3 times as long as the perianth . . . . . . . . 11. G. MOONII.

5. **G. pachycarpum** Alst. in Ann. Perad. XI, p. 5 (1928). *G. pachycarpum* var. *elliptica* Hk. f. in Fl. Brit. Ind. V, p. 316 (1890), C.P. 2560.

Small tree?; young parts glabrous; leaves 1–$2\frac{1}{2}$ in., almost equal-sided, cuneate at base, obtuse or subacute at apex;

fem. fl. solitary, subsessile; calyx united into a tube; style rather less than twice as long as the calyx, glabrous; fruit over $\frac{1}{3}$ in.

Central Province; Sudugala Kande. Fl. Sept.
Endemic.

*Page* 30.—For *G. coriaceum* Thw. read:

**G. montanum** var.? **glaberrima** Alst. in Ann. Perad. XI, p. 6 (1928). *G. coriaceum* Thw. Enum. p. 285 (1861) pp. (not type); Trim. Fl. Ceyl. IV, p. 30 (1878) pp.
Delete locality Hakgala.

7. **G. acutifolium** Alst. in Ann. Perad. XI, p. 7 (1928). *G. Gardneri* var. *acuminata* Trim. Fl. Ceyl. IV, p. 31 (1898).

Shrub?; young parts glabrous; leaves 3–4 in., narrowly lanceolate, unequal-sided, cuneate at base, acuminate and very acute at apex; veins rather indistinct; fl. numerous, in clusters; sexes mixed; male fl. on long pedicels; female subsessile; style more than twice as long as the sepals, glabrous; fruit 0·4 in. diam., 3-lobed, glabrous.

Moist region up to 1000 ft. rather common; Rayigam Korale; Deyandera; Vatagala; Ratnapura. Fl. Feb., March.
Endemic.

*Page* 29.—For *G. brachylobium* Muell. Arg. read:

2. **G. coriaceum** Thw. Enum. p. 285 (1861) pp. *G. brachylobium* Muell. Arg. in Linnæa XXXII, p. 62 (1863).

3. **G. pycnocarpum** Bedd. For. Man. p. 194 (1873). *G. coriaceum* Trim. Fl. Ceyl. IV, p. 30 (1898) pp. nec Thw. nec Muell.
Hakgala; Wallapoda.

*Page* 30.—For *G. rigidum* Muell. Arg. read:

4. **G. stellatum** Bedd. For. Man. p. 194 (1873?). *Phyllanthus stellatus* Retz. Obs. Bot. V, p. 29 (1789). *Glochidion rigidum* Muell. Arg. in Linnæa XXXII, p. 67 (1863). *Gynoon rigidum* A. Juss. Tent. Euph. p. 107 (1824). *Glochidion* sp. Willis in Ann. Perad. III, p. 285 (1906).

*Page* 32.—

9. **G. montanum** Thw.
Below Hakgala.

11. **G. Moonii** Thw.
Delete the locality Hewesse, as the specimen was *Chætocarpus pubescens.*

*Page* 33.—For *Breynia patens* Hk. f. read:

1. **B. retusa** (Dennst.) comb. nov. *Phyllanthus retusus* Dennst. Schluess. Hort. Mal. p. 31 (1818). *P. patens* Roxb. Fl. Ind. III, p. 667 (1832). *P. turbinatus* Koen ex Roxb. l. c. p. 666. *Breynia patens* Benth. in Gen. Pl. III, p. 277 (1883).

*Page* 37.—

3. **Hemicyclia Gardneri** Thw.
Near Trincomalee.

*Page* 38.—For *Cyclostemon macrophyllus* Bl. read:

**C. longifolius** Bl. Bijdr. p. 598 (1825); J. J. Sm. in Koord. and Val. Boomsoorten Op. Java XII, p. 206 (1910). *C. macrophyllus* Trim. Fl. Ceyl. IV, p. 38 (1898) non Bl.

*Page* 40.—

2. **Aporosa Lindleyana** Baill. **Vittil,** *T.* (Gamble).

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5. **A. fusiformis** Thw.
Also in S. India.

*Page* 42.—For *Daphniphyllum glaucescens* Bl. read:

**D. neilgherrense** Thw. Enum. p. 290 (1860); Gamble Fl. Madr. p. 1311 (1925). *Goughia neilgherrensis* Wight Ic. V, tt. 1878–9 (1852). *Daphniphyllum Roxburghii* Baill. Ét. Euph. p. 565 (1838). *D. glaucescens* Trim. Fl. Ceyl. IV, p. 42 (1898) non Bl.
Naminakuli.

*Page* 43.—For *Antidesma Ghesæmbilla* Gaertn. read:

1. **A. Alexiteria** Linn. Sp. Pl. p. 1027 (1753) pp. *A. Ghesæmbilla* Gaertn. Fruct. I, p. 189 (1788) pp.

As Fl. Zeyl. 357 was a mixture I have regarded Plunkenet's plant as the type.

For *A. Bunius* Spreng. read:

Stam. 3; l. membranaceous; spikes terminal 2. A. Bunius.
Stam. 4; l. subcoriaceous; spikes axillary . 2a. A. Thwaitesianum.

2a. **A. Thwaitesianum** Muell. Arg. in DC. Prodr. XV, p. 263 (1866). *A. Bunius* var. *Thwaitesianum* Trim. Cat. Ceyl. Fl. p. 81 (1885).

Small tree; young parts ferrugineous-pubescent; l. $3\frac{1}{2}$–6 in. long, lanceolate, slightly acuminate, shining; petiole $\frac{1}{4}$ in.; stip. subulate, ferrugineous-pubescent on the outside, caducous; fl. spikes 1–4 together, axillary on short shoots; male fl. 4-merous; stamens exserted; fem. fl. ovary glabrous; stigmas 3; fruit not seen.

Moist region; very rare. Kalutara. Fl. Sept.; reddish.
Endemic.

*Page* 44.—For *A. diandrum* Roth. read:

4. **A. Walkeri** Pax & K. Hoffm. Euphorbiaceæ in Engl. Pflanzenreich IV, 147, XV, p. 118 (1922). *A. lanceolatum* var. *Walkeri* Tul. in Ann. Sc. Nat. Ser. 3, XV, p. 196 (1851); Muell. Arg. in DC. Prodr. XV, p. 266 (1866). *A. lanceolarium* Thw. Enum. p. 289 (1861) non Wight. *A. diandrum* Trim. Fl. Ceyl. IV, p. 44 (1898) non Ruth.

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19. **JATROPHA** *Linn.*

Petals free; leaves deeply lobed:
Fls. yellowish; petioles glabrous . . . . . J. GLANDULIFERA.
Fls. red; petioles glandular . . . . . . *J. gossypifolia.*
Petals united at base; leaves scarcely lobed; fls. yellowish . . . . . . . . . . *J. Curcas.*

J. GOSSYPIFOLIA Linn. Sp. Pl. p. 1006 (1753); Pax, Euphorbiaceæ in Engl. Pflanzenreich IV, 147, p. 26 (1910). *J. gossypifolia* var. *elegans* Muell. Arg. in DC. Prodr. XV, p. 1087 (1866). **Atalai,** *T.* (Gamble).

Semi-shrubby, 3 ft. high; stem glabrous, shining; l. 3–5 in. long, deeply 3-lobed, with a few hairs on the veins, but margins glanduliferous; petiole 3 in., bearing groups of stalked glands; stip. laciniate, glanduliferous; fl. in pilose, bracteate cymes; cal.-segm. pilose, and glandular on the margins; per. spathulate;

Low country, introduced, as at Kantelai. Fl. March–May; red. Native of Tropical America.

19a. ALEURITES *Forst.*

Tree; l. alt. with glands on the petiole; fl. monoecious or subdioecious, in terminal panicles; calyx irregularly 3–5-lobed; petals 5; stamens 15–20, in 4 verticils; disk of 5 glands; ovary 2–5-locular; with one ovule in each loculus; fruit a drupe.

A. MOLUCCANA Willd. Sp. Pl. IV, p. 590 (1805); Pax, Euphorbiaceæ in Engl. Pflanzenreich IV, 147, p. 129 (1910). *Croton moluccanus* Linn. Sp. Pl. p. 1005 (1753) pp.; Merr. Interp. Rumph. p. 319 (1917). *Jatropha moluccana* Linn. Sp. Pl. p. 1006 (1753). *Aleurites triloba* Forst. Char. Gen. p. 112 t. 56 (1776). **Rata-kekuna, Tel-kekuna,** *S.*

A tall tree; bark pale greyish; young parts densely covered with fugacious, white, stellate hairs; leaves clustered at the apices of the branches, glaberescent, ovate or more less lobed, 7–9 in. long, 4–9 in. broad; petiole about 4 in. long; calyx 0·1 in. long in male fl., 0·2 in. female fls.; ovary densely hispid; fruit fleshy, about 2 in. diam., glabrous, 1–2 seeded.

Cultivated and run wild in low country up to 2000 ft. Fl. May; white.

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20. **CROTON** *Linn.*

Add to key:

Leaves nearly glabrous; 3–5 nerved at base:
L. thick . . . . . . . . . . 7. C. NIGRO-VIRIDIS.
L. membranaceous . . . . . . *C. Tiglium.*

*Page* 47.—For *C. reticulatus* Heyne read:

1. **C. zeylanicus** Muell. Arg. in Linnæa XXXIV, p. 107 (1866). *C. reticulatus* Heyne ex Wall. Cat. no. 7724 B (1847); Muell. Arg. in DC. Prodr. XV, p. 580 (1866) non Thunb. *C. hypoleucum* Dalz. in Hk. Kew Journ. III, p. 123 (1851) non Schlt.

2. C. AROMATICUS Linn.
All the specimens in the Peradeniya Herbarium appear to be *Croton caudatum* Geisel. which is a common liana in the dry region, where it is known as *Vel-keppetiya.* Linné's plant was probably also this species, as he gives the name " Weelkæppettiya " in the Fl. Zeyl. no. 345.

*Page* 48.—For *C. aromaticus* var. *lacciferus* Trim. read:

2. **C. lacciferus** Linn. Sp. Pl. p. 1005 (1753); Gamble Fl. Madr. p. 1315 (1925). *C. aromaticus* var. *lacciferus* Trim. Fl. Ceyl. IV, p. 48 (1898). **Teppaddi,** *T.* (Gamble).
Also in S. India.

*Page* 49.—For *C. Klotzschianus* Thw. read:

**C. officinalis** (Klotzsch). *Tiglium officinale* Klotzsch in Nova Acta Acad. Nat. Cur. XIX, Suppl. p. 418 (1843). *C. Klotzschianus* Thw. Enum. p. 276 (1861).

*Page* 50.—

**Givotia rottleriformis** Griff. **Vendalai,** *T.* (Gamble).

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23. **OSTODES** *Blume.*

Infl. pubescent; seeds 0·7 in. long . . . . . 1. O. ZEYLANICA.
Infl. glabrescent; seeds under 0·4 in. long . . 2. O. MINOR.

For *O. zeylanica* var. *minor* Thw. read:

2. **O. minor** Muell. Arg. in Linnæa XXXIV, p. 214 (1865); Pax Euphorbiaceæ in Engl. Pflanzenreich IV, 147, III, p. 20 (1911). *O. zeylanica* var. *minor* Thw. Enum. p. 278 (1861).
Low moist region, below 1000 ft., common. Fl. Mar.
Endemic.

24. **BLACHIA** *Baill.*

Sep. of fem. fls. under 0·3 in.; male fls. umbellate . B. UMBELLATA.
Sep. of fem. fls. enlarged to ½ in. when in fruit; male fls. racemose . . . . . . . . *B. calycina.*

B. CALYCINA Benth.
This species appears to be quite distinct from *B. umbellata.*

*Page* 55.—

2. **Agrostistachys Hookeri** Bth. **Kunu-beru,** *S.* (F. Lewis).
Rambukka, Kukul Korale; Gilimale; Kitulgala; Eratne (F. Lewis).

*Page* 56.—For *A. longifolia* Bth. read:

3. **A. coriacea** nom. nov.* *Sarcoclinium longifolium* Thw. Enum. p. 279 (1861); Pax, Euphorbiaceæ in Engl. Pflanzenreich IV, 147, VI, p. 100 (1912) non Wight. *Agrostachys longifolia* Trim. Fl. Ceyl. IV, p. 56 (1898) non Benth.
Endemic.

For *Chrozophora plicata* A. Juss. read:

**C. Rottleri** A. Juss. ex Spr. Syst. Veg. III, p. 850 (1826); Prain in Kew Bull. 1918, p. 95. *Croton Rottleri* Geis. Crot. Monogr. p. 54 (1807). *Chrozophora plicata* Trim. Fl. Ceyl. IV, p. 56 (1898) non A. Juss.

*Page* 57.—

**Acalypha paniculata** Miq.

Add syn.:

*A. racemosa* Heyne ex Wall. Cat. no. 1784 (1828); Baill. Étud. Gen. Euphorb. p. 443 (1858) non *Usteria racemosa* Dennst. Schluess. Hort. Malab. p. 31 (1818).

A. ZEYLANICA Raf. New Fl. Amer. I, p. 46 (1836) nomen; Pax. l. c. p. 76 (1924) may be *Adenochlæna zeylanica* Thw.

*Page* 61.—

**Trewia nudiflora** Linn.
Haragama; Girivalle (Thwaites).

## 31. **TRAGIA** *Linn.*

Leaves simple:
  Leaves cuneate at base . . . . . 1. T. INVOLUCRATA.
  Leaves cordate at base:
    Fruiting calyx segments linear, toothed; leaves narrowly deltoid . . . . 2. T. HISPIDA.
    Fruiting calyx broadly oblong, toothed; leaves broadly ovate . . . . 3. T. MUELLERIANA.
Leaves palmately 3-lobed, the middle lobe very long, rarely simple . . . . . . 4. T. CANNABINA.

2. **T. hispida** Willd. Sp. Pl. IV, p. 323 (1806). *T. involucrata* Thw. Enum. p. 270 (1861) pp.; Trim. Fl. Ceyl. IV, p. 61 pp. non Linn. *T. involucrata* var. *cordata* Trim. l. c. pp.

Stem elongate, slender, twining, almost glabrous; l. 1–5 in., elongate-deltoid, rather shallowly cordate at base, membranaceous, more or less regularly serrate; petiole usually rather long; racemes about 2 in. long; sepals of fruiting calyx linear, glabrous, with several linear teeth; fruit $\frac{1}{4}$ in. diam., sparsely hispid.

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* Affinis *A. longifoliæ,* fructu minore differt.—Typus: Bulutota, *Alston* 1475.

Low country, common. Hantane; Polonnaruva; Atakalan Korale; Puliyankulam. Fl. Mar., Sept.
Also in India.

3. **T. Muelleriana** Pax & K. Hoffm. *T. involucrata* var. *montana* Thw. Enum. p. 270 (1861). *T. involucrata* var. *cordata* Muell. Arg. in DC. Prodr. XV, p. 943 (1866); Trim. Fl. Ceyl. IV, p. 62 (1878) pp. *T. montana* Muell. Arg. l. c. p. 944.

Similar, but stem more densely hairy; l. 1½–3 in., broadly ovate, deeply cordate at base, thicker, very hispid when young, regularly serrate; petiole ½ the length of the leaf; racemes under 1 in. long; sepals of fruiting calyx broadly spathulate, with numerous long teeth, villous; fruit 0·3 in. diam., densely hispid.

Montane zone. Nuvara Eliya; Hakgala; Knuckles. Fl. Feb.–Mar.
Also in S. India.

4. **T. cannabina** Linn. f. Suppl. p. 415 (1781). *Croton hastatus* & *urens* Linn. Syst., ed. 13, p. 722 (1767) nec Muell. Arg. nec *T. urens* Linn. *T. involucrata* var. *cannabina* Hk. f. in Fl. Brit. Ind. V, p. 465 (1890).

Stem almost glabrous; leaves about 1½ in., usually trilobed, lateral lobes short, middle lobe elongate-oblong, irregularly crenate-serrate, sparsely hispid or glabrous; petiole about ¼ in.; racemes 1½ in. long; sepals of fruiting calyx spathulate, with numerous linear densely hispid teeth; fruit 0·3 in., hispid.

Dry region; Anuradhapura; Minneriya. Fl. Mar., Aug.
Tropics of the Old World.

*Page* 62.—For *Podadenia sapida* Thw. read:

**P. Thwaitesii** Muell. Arg. in DC. Prodr. XV, p. 791 (1866). *Rottlera Thwaitesii* Baill. Ét. Euph. p. 426 (1858). *Podadenia sapida* Thw. Enum. p. 274 (1861).

*Page* 63.—For *Claoxylon* A. Juss. read:

33. **MICROCOCCA** *Benth.*

For *Claoxylon mercurialis* Thw. read:

1. **Micrococca mercurialis** Benth. in Hk. Niger. Fl. p. 503 (1849); Prain in Ann. Bot. XXV, p. 629 (1911). *Tragia mercurialis* Linn. Sp. Pl. p. 980 (1753). *Claoxylon mercurialis* Thw. Enum. p. 271 (1861).

For *Claoxylon oligandrum* Muell. Arg. read:

2. **Micrococca oligandra** Prain in Ann. Bot. XXV, p. 629 (1911). *Claoxylon oligandrum* Muell. Arg. in Linnæa XXXIV, p. 104 (1865).
Hakgala.

*Page* 64.—For *Mallotus albus* Muell. Arg. read:

1. **M. tetracoccus** Kurz, in Journ. As. Soc. Beng. XVI, p. 245 (1873). *Rottlera tetracocca* Roxb. Hort. Beng. p. 73 (1814) nomen; Fl. Ind. III, p. 826 (1832); Thw. Enum. p. 272 (1861). ?*R. alba* Roxb. l. c. p. 73; l. c. p. 829. *Mallotus albus* Muell. Arg. in Linnæa XXXIV, p. 188 (1865). *M. albus* var. *occidentalis* Hk. f. in Fl. Brit. Ind. V, p. 429 (1890). **Mullu-polavu,** *T.* (Gamble).

If Roxburgh's original specimen of *R. alba* was from Penang it must have been some other species, perhaps *M. barbatus* Muell. Arg.

*Page* 66.—

3. **M. Walkeræ** Hk. f.
Rasagala, Balangoda; Pas-dun Korale; Bibile.

*Page* 69.—

**Cleidion javanicum** Bl.
Kummanaru.

*Page* 70.—For *Macaranga tomentosa* Wight read:

2. **M. peltata** Muell. Arg. in DC. Prodr. XV, p. 1010 (1862). *Osyris ?peltata* Roxb. Hort. Beng. p. 71 (1819) nomen; Fl. Ind. III, p. 755 (1832). *M. tomentosa* Wight Ic. V, 2, 23 (1852). *M. Roxburghii* Wight l. c. **Vattakanni,** *T.* (Gamble).

*Page* 74.—

1. **Chætocarpus castanocarpus** Thw. **Palanakuna, Sadavaku,** *T.* (Pax).
Tithaweralu-kotha Forest; Delgoda.

*Page* 75.—

41. **SAPIUM** *P. Br.*

Leaves lanceolate . . . . . 1. S. indicum, 2. S. insigne.
Leaves broadly ovate . . . . *S. sebiferum.*

**S. insigne** Trim.
Tissamaharama (F. Lewis).

*Page* 77.—

42. **EXCÆCARIA** *Linn.*

Leaves alternate; seashore shrub . . . . 1. E. Agallocha.
Leaves usually opposite; upcountry shrub . . 2. E. crenulata.

1. **E. Agallocha** Linn. **Tilai,** *T.* (Gamble).

*Page* 83.—For *Gironniera subæqualis* var. *zeylanica* Thw. read:

1. **G. scabrida** (Thw.). *Helminthospermum scabridum* Thw. in Kew Journ. Bot. VI, p. 302 (1854). *Gironniera parvifolia* Planch. in DC. Prodr. XVII, p. 206 (1864) pp. *G. subæqualis* var. *zeylanica* Thw. Enum. p. 268 (1861); Ridl. Fl. Mal. Pen. III, p. 321 (1924).

For *G. reticulata* Thw. read:

2. **G. cuspidata** Kurz, For. Fl. II, p. 470 (1877). *Cyclostemon cuspidatum* Blume Bijdr. p. 599 (1825). *G. reticulata* Thw. Enum. p. 265 (1861).

*Page* 86.—For *Ficus mysorensis* Heyne read:

3. **F. cotoneæfolia** Vahl Enum. II, p. 189 (1806). *F. mysorensis* Heyne ex Roth. Nov. Sp. p. 390 (1821). *F. pubescens* Roth. l. c. p 387.

*Page* 87.—For *F. tomentosa* Roxb. read:

4. **F. mollis** Vahl Symb. I, p. 82 (1790). *F. tomentosa* Roxb. ex Willd. Sp. Pl. IV, p. 1136 (1805).

*Page* 92.—For *F. infectoria* Roxb. read:

14. **F. lucescens** Blume Bijdr. p. 444 (1825). *F. Lacor* Ham. in Trans. Linn. Soc. XV, p. 150 (1827). *F. infectoria* Trim. Fl. Ceyl. IV, p. 92 (1898) nec Roxb. nec Willd.; C. B. Rob. Phil. Journ. Sc. Bot. VII, p. 419 (1912).

*Page* 95.—For *F. Thwaitesii* Miq. read:

19. **F. diversiformis** Miq. in Lond. Journ. Bot. VII, p. 441 (1848). *F. Thwaitesii* Miq. Ann. Mus. III, p. 229 (1867).
Balangoda; Westminster Abbey; Uda-Pussellava.

20. **F. lævis** Blume.
Karavita Kande; Vatagoda; Singhe Raja Forest.

*Page* 99.—For *Artocarpus integrifolia* L. f. read:

A. INTEGRA Merr. Int. Rumph. p. 190 (1917). *Radermachera integra* Thunb. in Kungl. Sv. Vet. Ak. Hdl. p. 254 (1776). *Artocarpus integrifolia* Linn. f. Suppl. Pl. p. 412 (1781).

*Page* 100.—

**Taxotrophis zeylanica** Thw.
Endemic.

*Page* 101.—For *Phyllochlamys spinosa* Bureau read:

**P. taxoides** Koorders Exkursions fl. Java II, p. 89 (1912). *Trophis taxoides* Heyne in Roth. Nov. Sp. p. 368 (1821). *Phyllochlamys spinosa* Bureau in DC. Prodr. XVII, p. 218 (1873).

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**Plecospermum spinosum** Trec.

This is a woody climber with fissured bark and not a shrub or tree.

*Page* 106.—

17. **GIRARDINIA** Gaud.

Fruiting cymes in reniform clusters . . . 1. G. HETEROPHYLLA.
Fruiting cymes elongate . . . . . . 2. G. PALMATA.

2. **G. palmata** Gaud. in Freyc. Voy. Bot. p. 498 (1826). *Urtica palmata* Forsk. Fl. Ǽg. Arb. p. 189 (1775). *G. heterophylla* var. *palmata* Hk. f. Fl. Brit. Ind. V, p. 551 (1890).

As *G. heterophylla* but leaf segments narrower, less hairy; fem. infl. elongate.

Forests of the montane zone 3000–6000 ft., rather common. Fl. Feb. Also in S. India.

*Page* 107.—

18. **PILEA** *Lindl.*

Leaves serrate . 1. P. Wightii, 2. P. angulata, 3. P. melastomoides.
Leaves entire . 3a. *P. microphylla.*

For *P. stipulosa* Miq. read:

2. **P. angulata** Blume Mus. Bot. II, p. 55 (1856). *Urtica angulata* Bl. Bijdr. p. 494 (1825). *U. stipulosa* Miq. Pl. Jungh. I, p. 28 (1854). *Pilea stipulosa* Miq. in Zoll. Syst. Verr. p. 102 (1854).

For *P. trinervia* Wight read:

3. **P. melastomoides** Wedd. in Ann. Sc. Nat. sér. 4, I, p. 184 (1854). *Urtica melastomoides* Poir. Encycl. Suppl. IV, p. 223 (1816). *Pilea trinervia* Wight Ic. t. 1973 (1853).

3a. P. MICROPHYLLA Liebm. in Vidensk. Selsk. Skr. sér. 5, II, 296 (1851). *Parietaria microphylla* Linn. Syst., ed. X, p. 1308 (1759). *Pilea muscosa* Lindl. Coll. Bot. t. 4 (1821).

Minute creeping herb; leaves very small, more or less anisophyllous, entire, one-nerved, often succulent, petiole $\frac{1}{4}$ as long as the blade; cymes androgynous or unisexual, usually of a single sessile cluster; male fl. pedicellate; segments of male fl. with short, broad, glabrous, dorsal appendages; fem. fl. subsessile; median segments of perianth cucullate, scarcely longer than the lateral segments; achene ovoid, slightly rough.

Low country, common; naturalised. Fls. greenish, tinged with white or red.

Native of Tropical America.

*Page* 108.—For *Lecanthus Wightii* Wedd. read:

**L. peduncularis** Wedd. in DC. Prodr. XVI, p. 164 (1869). *Procris peduncularis* Wall. Cat. no. 4634 (1828); Royle III, t. 83 f. 2 (1833–40). *Lecanthus Wightii* Wedd. in Ann. Sc. Nat., sér. IV, I, p. 187 (1854).

*Page* 114.—For *Boehmeria platyphylla* Don read:

Spikes very long, diffuse; leaves subglabrous beneath; hairs of stem adpressed . . . 1. B. PLATYPHYLLA.
Spikes rather short; leaves pubescent beneath; hairs of stem spreading . . . . . 2. B. RUGOSISSIMA.

1. **B. platyphylla** Don Prodr. Fl. Nep. p. 60 (1825). *B. platyphylla* var. *macrostachya* Wedd. in DC. Prodr. XVI, p. 211 (1869). *Splitgerbera macrostachya* Wight Ic. t. 1977 (1863).

A herb; young parts finely strigose; leaves opposite, broadly ovate-elliptic, acuminate, regularly serrate except at the subcordate base, subglabrous with a few adpressed hairs on the upper and on the veins of the lower surface; petiole long, often exceeding the leaves; fls. in minute remose cluster on long and simple pendulous spikes; male sep. 4, ovate, acuminate, pubescent, with a dorsal mucro.

Moist region; common?

Hantane; Ramboda; Wattegoda.

Also in the Himalayas, Nilgiris, Java and the Mascarene Islands.

2. **B. rugosissima** Miq. Pl. Jungh. I, p. 32 (1851). *Urtica rugosissima* Reinw. ex Bl. Bijdr. p. 490 (1825). *Boehmeria scabrella* Gaud. Bot. Freyc. Voy. p. 499 (1826); Clarke in Journ. Linn. Soc. XV, p. 125 (1877). *Urtica scabrella* Roxb. Fl. Ind. III, p. 581 (1852); Wt. Ic. t. 691. *B. platyphylla* var. *scabrella* Wedd. in DC. Prodr. XVI, p. 211 (1869) var. *zeylanica* Wedd. l. c. p. 211 var. *rugosissima* Wedd. l. c. p. 212. *B. caudata* J. J. Sm. in Koord. & Val. Boonsoorten op Java XII, p. 706 (1910) non Sw. incl. var. *rugosissima* J. J. Sm. l. c. p. 715.

A shrub; young parts densely pubescent, pubescence spreading; leaves opposite, ovate-elliptic, caudate-acuminate, regularly crenate-serrate, subcordate at base, pubescent, especially on the lower surface; petiole shorter than in *B. platyphylla;* fls. in larger, closer clusters, on usually shorter, simple or branched, upright or pendulous spikes.

Moist region; common? Fl. Apr., May, Oct.

Kadugannava; Palugala; Hunasgiriya; Haputale; Dikoya; Hantane.

Also in India, Java, and Sumatra.

I have followed C. B. Clarke, who had seen these species in the field and considered them distinct; I have only met with sterile specimens.

B. ROTUNDIFOLIA Don Prodr. Fl. Nep. p. 60 (1925). *B. cuspidata* Clarke in Journ. Linn. Soc. XV, p. 60 (1877). *B. platyphylla* var. *rotundifolia* Wedd. in DC. Prodr. XVI, p. 212 (1869).

This species is given for Ceylon in the Fl. Brit. Ind.

B. PLATYPHYLLA var. LONGISSIMA Hk. f. in Fl. Brit. Ind. V, p. 579 (1890).

This species is also given for Ceylon, Walker, in the Fl. Brit. Ind.: it is probably a distinct species.

*Page* 115.—For *Pouzolzia indica* Gaud. read:

1. **P. zeylanica** Benn. Pl. Jav. Rar. p. 67 (1838). *Parietaria zeylanica* Linn. Sp. Pl. p. 1052 (1753). *P. indica* Gaud. in Freyc. Voy. Bot. p. 513 (1826).

*Page* 116.—

2. **P. auriculata** Wight.

Some of the specimens placed under this name by Thwaites and Trimen were something else, perhaps another variety of *P. zeylanica.*

*Page* 117.—For *P. parvifolia* Wight read:

5. **P. triandra** Blume Mus. Bot. II, p. 241 (1856). *Urtica triandra* Blume Bijdr. p. 496 (1825). *Pouzolzia parvifolia* Wight Ic. VI, p. 39 (1853).

*Page* 119.—For *Debregeasia velutina* Gaud. read:

**D. longifolia** Wedd. in DC. Prodr. XVI, p. 235 (1869). *Urtica longifolia* Burm. f. Fl. Ind. p. 297 (1768).

**D. zeylanica** Hk. f. **Mudu-kanda,** *S.*
Hunasgiriya.

*Page* 120.—For *Ceratophyllum verticillatum* Roxb. read:

**C. demersum** Linn. Sp. Pl. p. 992 (1753). *C. verticillatum* Roxb. Fl. Ind. III, p. 624 (1832).

*Page* 123.—For *Hydrilla ovalifolia* Rich. read:

**H. verticillata** Presl. Bot. Bemerk. p. 112 (1844). *Serpicula verticillata* Linn. f. Suppl. p. 416 (1781). *H. ovalifolia* Rich. in Mem. Inst. Fr. II, p. 76 (1811).

*Page* 124.—For *Lagarosiphon Roxburghii* Benth. read:

**L. alternifolium** Haines Bot. Bih. and Or. p. 853 (1924). *Vallisneria alternifolia* Roxb. Fl. Ind. III, p. 750 (1832). *Lagarosiphon Roxburghii* Benth. in Gen. Pl. III, p. 451 (1883).

*Page* 127.—For *Enhalus Koenigii* Rich. read:

**E. acoroides** Rich. ex Steud. Nomencl. Bot. p. 554 (1844); Asch. & Gürke Hydrocharitaceæ in Engl. Pflanzenreich II, I, p. 238 1907); Svedelius in Ann. Perad. II, pp. 267–297 (1904). *Stratiotes acoroides* Linn. f. Suppl. p. 268 (1781). **Kadol-thalai,** *T.*

*Page* 128.—For *Halophila ovata* Gaudich. read:

**H. ovalis** Hk. f. Fl. Tasm. II, p. 45 (1860). *Caulinia ovalis* H. Br. Prodr. p. 339 (1810). *Halophila ovata* Hk. f. in Trim. Fl. Ceyl. IV, p. 128 (1898) non Gaudich.; Ostenf. in Phil. Journ. Sc. Bot. IV, p. 67 (1909).

*Page* 131.—

3. **Burmannia Championii** Thw.
Ellaboda Kande.

*Page* 136.—

1. **Oberonia truncata** Lindl.
Near Bibile.

2. **O. recurva** Lindl.
Hakgala.

3. **O. Thwaitesii** Hk. f.
Bibile; Mirigama.

4. **O. longibracteata** Lindl.
Maturata.

8. **O. Wightiana** Lindl.
Naminakula.

*Page* 141.—For *Microstylis congesta* Rchb. f. read:

3. **M. latifolia** J. J. Sm. Orch. Jav. VI, p. 248 (1905). *Malaxis latifolia* Sm. in Rees, Cyclop. xxii, no. 3 (1819). *Dienia congesta* Lindl. in Wall. no. 1936 (1828); Gen. and Sp. Orch. p. 22 (1830). *Microstylis congesta* Rchb. f. in Walp. Ann. VI, p. 206 (1861).

Var. **fusca** J. J. Sm. l. c. p. 249. *M. congesta* var. *fusca* Ridl. in Journ. Linn. Soc. XXIV, p. 335 (1888). *M. fusca* f. l. c. p. 207 *Dienia fusca* Lindl. Gen. and Sp. Orch. p. 22 (1830).

1. **M. Rheedii** Lindl.
Haldumulla (S. B. Stedman).

For *M. versicolor* Wight read:

5. **M. densiflora** (A. Rich.). *Liparis densiflora* A. Rich. in Ann. Sc. Nat. sér. 2, XV, p. 18 t. 113 (1841). *Microstylis versicolor* Wight Ic. t. 901 (1843) non Lindl. *M. luteola* Wight l. c. t. 1632. *M. pratensis* Ridl. in Journ. Linn. Soc. XXIV, p. 344 (1888).
Maskeliya.
Wight's name is only a misidentification.

6. **M. lancifolia** Thw.
Rasagala, Balangoda; Singhe Raja Forest; Kitulgala.

*Page* 145.—For *Liparis Thwaitesii* Hk. f. *L. Wightiana* Thw. *L. Trimenii* Ridley and *L. barbata* Lindl. read:

Lip broader than long, purple . . . . . 1. L. WIGHTIANA.
Lip longer than broad, green . . . . . 2. L. BARBATA.

1. **L. Wightiana** Thw. Enum. p. 295 (1861); Hk. f. in Trim. Fl. Ceyl. IV, p. 144 (1898) pp. *L. atropurpurea* Wight Ic. t. 904 (1843) non Lindl.
Hunasgiriya; Knuckles (omit localities Dimbula and Nuvara Eliya).

2. **L. barbata** Lindl. Gen. and Sp. Orch. p. 27 (1830). ?*L. Trimenii* Ridl. in Journ. Linn. Soc. XXIV, p. 350 (1888). ?*L. Thwaitesii* Hk. f. in Fl. Brit. Ind. V, p. 692 (1890). *L. Wightiana* Thw. Enum. p. 295 (1861) pp.; Hk. f. in Trim. Fl. Ceyl. IV, p. 144 (1898) pp.
Horagala, Dolosbage; between Dimbula and Nuvara Eliya; Rangala; Pasdun Korale.
The drawing mentioned by Hooker under *L. Wightiana* was probably the original of the one sent to Lindley.
*L. Thwaitesii* appears to have the narrow lip of this species. Both *L. Thwaitesii* and *L. Trimenii* require re-collecting from their original localities, Pasdun Korale and Horagala respectively.

For *L. nervosa* Lindl. read:

5. **L. odorata** Lindl. Gen. and Sp. Orch. p. 26 (1830). *Malaxis odorata* Willd. Sp. Pl. IV, p. 91 (1806). *Empusa paradoxa* Lindl. in Bot. Reg. Sub. t. 825 (1824). *Liparis nervosa* Lindl. Gen. and Sp. Orch. p. 26 (1830). *L. paradoxa* Rchb. f. in Walp. Ann. VI, p. 218 (1861).

6. **L. Walkeriæ** Graham.
Hakgala.

L. ZEYLANICA Lodd. is unknown to me.

For *Denbrobium* Sw. read:

Stem branched . . . . . . . 3a. DESMOTRICHUM.
Stem not branched . . . . . . 4. DENDROBIUM.

### 3a. DESMOTRICHUM *Blume.*

Shrubby epiphytes, with pendulous branched stems, and the terminal internodes of each branch developed into an oblong flattened pseudobulb with one coriaceous leaf; fls. fugacious 1–3 at a time from a tuft of bracts below the leaf; sepals and petals lanceolate; mentum short, conic; lip tri-lobed; mid-lobe long and dilated.—Sp. about 30.

For *Dendrobium Macraei* Lindl. read:

**Desmotrichum fimbriatum** Blume Bijdr. p. 329 (1825); Kranzl. Orchidaceæ in Engl. Pflanzenreich IV, 50, II, B. 21 p. 354 (1910). *Dendrobium Macraei* Lindl. Gen. and Sp. Orch. p. 75 (1830).
Hantane.

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2. **Dendrobium panduratum** Lindl.
Balangoda (A. N. Paine).

*Page* 155.—

### 5. BULBOPHYLLUM *Thouars.*

Lateral sep. flat. or nearly so; fl. small:
  Fls. solitary, yellowish-green with red spots . 1. B. CRASSIFOLIUM.
  Fls. two or more:
    Fls. fascicled on the top of the scape:
      Fls. orange or pinkish . . . . 2. B. PETIOLARE.
      Fls. greenish-yellow:
        Lateral sepals 4–5-nerved . . . 3. B. MASKELIYENSE.
        Lateral sepals 3-nerved . . . 4. B. TRICARINATUM.
    Fls. spicate; purplish . . . . . 5. B. PURPUREUM.
Lateral sep. concave; fl. large, dull purple . 6. B. ELEGANS.

3. **B. maskeliyense** Livera in Ann. Perad. X, p. 142 (1926).

Roots fibrous, long. Pseudobulbs naked, 0·2 in. diameter. Leaves on the apex of the pseudobulb, apex retuse unequal, margins entire, surface shining above and dull below. Leaves tough, leathery 0·5 in. to 0·8 in. long, 0·2–0·3 in. broad. Scape 0·7–1 in. long. Bracts minute. Flowers about 0·1 in. long. Dorsal sepal 0·2 in. long. Lateral sepals 0·2 in. long, broader than the dorsal sepal. Petals 0·1 in. long, margins crisped. Column winged. Lip fleshy, folded back on the column, which is much shorter than the lip.

Maskeliya (S. B. Stedman). Fl. August.
Endemic.
This description closely follows that of Livera, as the dried specimens are very poor.

4. **B. tricarinatum** Petch m.s.

"Pseudobulbs minute, ovoid, truncate at the apex, about 0·2 in. high, 0·15 in. diam., crowded on a very slender rhizome. Leaves ovate, or ovate-lanceolate, from 0·2 in. broad to 1·25 in. long, 0·25 in. broad, contracted, usually abruptly, into a distinct petiole, thick in the centre, apex incised. Scape filiform, up to 1 in. high, with two to four flowers (subumbellate in a short raceme) at the apex, expanding slightly towards the apex, bearing a sheathing bract at about half its height. Flowers sessile, greenish-yellow, translucent, becoming dull orange-yellow when old. Ovary green, curved, feebly ribbed, about 0·1 in. long: length of flower without ovary about 0·2 in. Bracts small, hyaline, triangular, extending up to half the length of the ovary. Dorsal sepal oblong, apex rounded, 0·2 in. long, 0·1 in broad, three veined, distinctly peeled ribbed over the veins, especially at the base, frequently with a small projecting tooth of the median rib just below the apex of the sepal, appearing as long as, or slightly shorter than, the lateral sepals in the open flower. Lateral sepals inequilateral, semiovate, apex obtuse or truncate united by their inner edge up to halfway or nearly to the top, 0·2 in. long, 0·1 in. broad, becoming recurved and convex, three veined, becoming ridged when old, adnate to the foot: mentum gently rounded. Petals small, oblong with a triangular tip, 0·1 in. long, one veined. Column short, produced into a point behind; and with lateral process, consisting of a slightly curved elongated tooth, furnished with a minute triangular tooth at the back and a rounded projection on the anterior side. Pollinia pearshaped, two large and two small. Lip tongue-shaped, hinged, abruptly bent at right angles, channelled in the centre, with two small erect lobes before the bend, and an oval raised area on either side of the channel just beyond the bend. Lip tomentose-papillate except in the channel." (Petch.) "Fruit apparently $\frac{1}{4}$–$\frac{1}{3}$ in., ribbed" (A. N. Paine).

Maturata district, 5600 ft. in heavy jungle. Nov. 27, 1921, Oct. 7, 1921 (A. N. Paine).

Apparently near *B. moniliforme* Par. & Reich. which has dorsal and lateral sepals five nerved.—Petch.

This seems doubtfully distinct from *B. maskeliyense,* but the material of that species is insufficient.

*Page* 161.—

**Adrorhizon purpurascens** Hk. f.
Adam's Peak; Balangoda (A. N. Paine).

*Page* 164.—

**Acanthophippium bicolor** Lindl.
Bogovantalava (A. Farr).

**Part IV.**

*Page* 165.—

1. **Eria braccata** Lindl.
Adam's Peak.
Also in S. India.

*Page* 166.—

4. **E. tricolor** Thw.
Near Naminakula.

*Page* 168.—

*E. profusca* Lindl. is a Philippine plant.

*Page* 170.—

15. **ARUNDINA** *Blume.*

Leaves 2–3 in.; capsule 1–1½ in., decurved; lip with a yellow blotch . . . . . . . A. MINOR.
Leaves 8–12 in.; capsule 2–2½ in., decurved; lip with a small yellow blotch . . . . . *A. graminifolia.*

A. GRAMINIFOLIA Hochr. in Bull. New York Bot. Gard. VI, p. 270 (1910). *Arundina bambusifolia* Lindl. in Wall. Cat. no. 3751 (1830); Gen. Sp. Orch. p. 125 (1830); Wight Ic. 160; Petch in Ann. Perad. V, pp. 387–8 (1913); Ridl. Fl. Mal. IV, p. 124 (1924). *Bletia graminifolia* D. Don Prodr. Fl. Nep. p. 29 (1825). *Cymbidium bambusifolium* Roxb. Hort. Beng. p. 63 (1814) nomen; Fl. Ind. III, p. 460 (1832). *Arundina speciosa* J. J. Sm. Orch. Java VI, p. 229 (1905) ?Blume.

On patanas, Hevaheta; Gonavy. Fl. May, Oct., Dec. Doubtfully indigenous.

Also in Northern and ?Peninsular India.

*Page* 171.—

**Agrostophyllum zeylanicum** Hk. f.
Tittaveralukotha; Balangoda; Bambarabotuva (A. N. Paine).

*Page* 173.—For *Phajus luridus* Thw. read:

**P. tetragonus** Rchb. f. in Bonplandia III, p. 221 (1855) excl. syn. *Epidendrum tetragonum*. *P. luridus* Thw. Enum. p. 300 (1861).

Both *P. luridus* and *P. Wallichii* are reduced to *P. Incarvillei* by J. J. Smith.

Also in Bourbon. (O'Brien m.s.)

*Page* 175.—

20. **EULOPHIA** *R. Br.*

Column not produced into a foot; leaves grass-like; lip with subulate processes; pseudo-bulb epigeal:
Sep. linear-oblong, acute or obtuse . . 1. E. EPIDENDRÆA.
Sep. lanceolate, acuminate . . . . 2. E. GRAMINEA.
Column produced into a foot; leaves broadly lanceolate; lip smooth:
Pseudobulb epigeal; lip deeply bilobed . . 3. E. MACROSTACHYA.
Rootstock tuberous, hypogeal:
L. and fl. produced together; lip entire . 4. E. NUDA.
L. produced after fl.; lip 3-lobed . . . 5. E. SANGUINEA.

For *E. virens* R. Br. read:

**E. epidendræa** C. Fisch. in Gamble Pl. Madr. p. 1434 (1928). *Serapias epidendræa* Koenig in Retz. Obs. Bot. VI, p. 65 (1791). *Limodorum virens* Roxb. Cor. Pl. I, p. 32 (1795). *Eulophia virens* R. Br. in Lindl. Gen. and Sp. Orch. p. 182 (1833).

*Page* 177.—

**Eulophia nuda** Linn.
Hantane; Peradeniya; Sogama, Pussallava; Bambarabotuva (A. N. Paine).

*Page* 178.—

21. **GEODORUM** *Jacks.*

| | |
|---|---|
| Sepals and petals white . . . . . . . | 1. G. RECURVUM. |
| Sepals and petals pink . . . . . . . | 2. G. NUTANS. |

1. **Geodorum recurvum** (Roxb.). *Limodorum recurvum* Roxb. Cor. Pl. I, t. 39 (1795). *Geodorum dilitatum* R. Br. in Ait. Hort. Kew, ed. 2, V, p. 207 (1913).
I am doubtful if this species really occurs in Ceylon.

2. **Geodorum nutans** Ames. Orchid. II, p. 154 (1908). *Limodorum nutans* Roxb. Cor. Pl. t. 40 (1795). *Geodorum purpureum* R. Br. l. c. *G. fucatum* Lindl. in Bot. Reg. XX, t. 1687 (1834).
Our plant seems to be this species rather than *G. recurvum,* but C. Fischer, Fl. Madr. p. 1437, refers both to *G. densiflorum* Schltr.

*Page* 183.—For *Sarcochilus* R. Br. read:

| | |
|---|---|
| Fl. inserted all round the rachis of a spike or raceme: | |
| Infl. racemose . . . . . . . . | 25. SARCOCHILUS. |
| Infl. spicate . . . . . . . . | 25a. DENDROCOLLA. |
| Fl. distichous on a flattened rachis . . . | 25b. THRIXSPERMUM. |

*Page* 184.—

**Sarcochilus viridiflorus** Hk. f.
Meeriacotta Estate, Maskeliya (S. B. Stedman).

25a. **DENDROCOLLA** *Blume.*

Epiphytes; stems up to 3 in.; l. lorate or semi-terete; infl. a short terminal spike; rachis thickened but not flattened; bracts persistent not distichous; fls. small; sepals and petals spreading; lip saccate, pubescent inside; column very short pollonia 2; capsule linear.—Sp. about 20.

*Page* 185.—For *S. pulchellus* Trim. read:

1. **Dendrocolla pulchella** Thw. Enum. p. 430 (1864); Ridl. in Linn. Soc. XXXII, p. 380 (1896). *Sarcochilus pulchellus* Trim. Syst. Cat. p. 89 (1885). *Thrixspermum pulchellum* Schltr. in Ochis, p. 57 (1911).

For *Sarcochilus pugionifolius* Hk. f. read:

2. **Dendrocolla pugionifolia** Ridl. l. c. *Sarcochilus pugionifolius* Hk. f. in Fl. Brit. Ind. VI, p. 196 (1890). *Thrixspermum pugionifolium* Schltr. l. c.

### 25b. THRIXSPERMUM *Lour.*

Epiphyte; stem long, rooting at intervals; l. oblong, emarginate; racemes flat with persistent, distichous bracts; flowers opening one or two at a time; sepals and petals elongate, caudate; lip small, saccate, mid lobe fleshy with a prominent styliform callus; column very short; pollinia 4, in pairs; capsule elongate.

*Page* 186.—For *Sarcochilus complanatus* Hk. f. read:

**Thrixspermum complanatum** Schltr. in Orchis, V, p. 55 (1911). *Epidendrum complanatum* Retz. Obs. VI, p. 50 (1791). *Sarcochilus complanatus* Hk. f. in Fl. Brit. Ind. VI, p. 41 (1890). *S. serræformis* Trim. Syst. Cat. p. 89 (1885) non Rchb. f.
Balangoda (A. N. Paine). Kalutara (Thwaites).

*Page* 191.—

1. **Luisia teretifolia** Gaud.
Ritigala; Balangoda (A. N. Paine).

2. **L. tenuifolia** Bl.
Balangoda (A. N. Paine).

*Page* 192.—For *Vanda parviflora* Lindl. read:

1. **V. testacea** Rchb. f. in Gard. Chron. p. 166 (1877). *Ærides testaceum* Lindl. Gen. and Sp. Orch. p. 238, no. 2 (1833). *A. Wightianum* Lindl. l. c. no. 3. *Vanda parviflora* Lindl. Bot. Reg. XXX, Misc. 45 (1844).

For *V. Roxburghii* R. Br. read:

2. **V. tessellata** Hk. ex G. Don in Loud. Hort. Brit. p. 372 (1830). *Epidendrum tessellatum* Roxb. Cor. Pl. I, p. 34 t. 42 (1795). *Vanda Roxburghii* R. Br. in Bot. Reg. VI, t. 506 (1820); Petch in Ann. Perad. IX, p. 350 (1925).

Forma **rufescens.** *V. Roxburghii* Gammie in Journ. Bomb. N. H. S. XIX, t. 9 (1909).

Sepals and petals reddish.

Madu.

Forma **lutescens.** ?*V. Roxburghii* var. *unicolor* Bot. Mag. t. 3416.

Sepals and petals greenish-brown, not tessellated.

Dambulla (G. B. Foote).

*Page* 196.—For *Saccolabium filiforme* Lindl. read:

2. **S. chrysanthum** sp. nov.* *Schoenorchis juncifolia* Thw.

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* Species *S. filiformi* Lindl. affinis, sed labello latiore aurantiaco differt.—Typhus: *Thwaites* C.P. 633.

Enum. p. 304 (1861) non Blume. *Saccolabium filiforme* Trim. Fl. Ceyl. IV, p. 196 (1898) non Lindl.
Endemic.

*Page* 200.—For *Sarcanthus peninsularis* Dalz. read:

10. **Saccolabium peninsulare** (Dalz.). *Sarcanthus peninsularis* Dalz. in Kew Journ. Bot. III, p. 247 (1857).

For *Cleisostoma tenerum* Hk. f. read:

11. **Saccolabium maculosum** (Lindl.). *Cleisotoma maculosum* Lindl. Gen. and Sp. Orch. p. 227 (1833).

For *Cleisostoma tenerum* Hk. f. read:

12. **Saccolabium tenerum** Lindl. in Journ. Linn. Soc. III, p. 36 (1859). *Cleisostoma tenerum* Hk., f. in Fl. Brit. Ind. VI, p. 73 (1890).

For *Cleisostoma decipiens* Lindl. read:

13. **S. decipiens** (Lindl.). *Cleisostoma decipiens* Lindl. in Bot. Reg. XXX, Misc. p. 11 (1844).

*Page* 203.—For *Cottonia macrostachya* Wight read:

1. **C. peduncularis** Thw. Enum. p. 303 (1861). *Vanda peduncularis* Lindl. Gen. Sp. Orch. p. 216 (1833). *Cottonia macrostachya* Wight Ic. V, p. 21 (1851).
Lagalla district; Ritigala.

### 37a. ANGRÆCUM *Bory.*

Epiphytes; stem short (or long), not pseudobulbous; leaves distichous; inflorescence racemose, axillary, sepals sub-equal, patent, free; petals similar to the sepals; lip spurred, adnate to the base of the column; column very short, not winged; truncate; foot 0; anther convex; pollinia 2, waxy, globose; capsule oblong or fusiform, not beaked.—Species mostly African.

**A. hologlottis** Schltr. in Fedde. Rep. III, p. 82 (1906).

Stemless epiphyte; roots cylindrical, glabrous; leaves oblong-lanceolate, somewhat fulcate, coriaceous, $1\frac{1}{2}$–3 in. long, unequally bilobed at the apex; racemes usually drooping, bracteate, many-flowered; bracts ovate, acute; flowers $\frac{1}{2}$ in. diam.; sepals oblong-lanceolate, acute; petals similar to the sepals; lip. 3-nerved, with a long spur; gland small, rounded.

On trees in Peradeniya Gardens. Fls. March–April; white.
Endemic.

*Page* 207.—

**Phreatis elegans** Lindl.
Meeriacotta Estate, Maskeliya.

**Part IV.**

*Page* 211.—

**Cheirostylis flabellata** Wight.
Hakgala.

*Page* 215.—For *Zeuxine sulcata* Lindl. read:

1. **Z. strateumatica** Schltr. in Fedde. Rep. Beib. I, p. 77 (1911). *Orchis strateumatica* Linn. Sp. Pl. p. 943 (1753). *Zeuxine sulcata* Lindl. Gen. and Sp. Orch. p. 485 (1840).

*Page* 217.—

4. **Z. flava** Benth.
Hunasgiriya.

49. **SPIRANTHES** *Rich.*

The name *Triorchis* Mill. (1765) has been adopted for this genus by Nieuwland (Am. Midl. Nat. III, p. 122).

For *S. australis* Lindl. read:

**S. sinensis** Ames. Orchid. II, p. 53 (1908). *Neottia sinensis* Pers. Syn. II, p. 511 (1807). *N. australis* R. Br. Prodr. p. 319 (1810). *Spiranthes australis* Lindl. in Bot. Reg. X, sub. t. 323 (1824).

*Page* 218.—For *Corymbis* Thou. read:

50. **CORYMBORCHIS** *Thouars.*

**C. veratrifolia** Blume.

Add Syn.

*Corymbis veratrifolia* Rchb. f. in Flora XLVIII, p. 184 (1865); Hk. f. in Fl. Brit. Ind. VI, p. 91 (1894). *Hysteria veratrifolia* Reinw. in Bot. Zeit. II, p. 5 (1825).

*Page* 221.—

**Vanilla Moonii** Thw.
Negombo; Kurunegala (Thwaites).

For *Gastrodia javanica* Lindl. read:

**G. zeylanica** Schltr. in Fedde. Rep. III, p. 77 (1906). *G. javanica* Thw. Enum. p. 311 (1861); Trim. Fl. Ceyl. IV, p. 221 (1898) non Lindl.
Balangoda (A. N. Paine).

*Page* 222.—

**Epipogum nutans** Lindl.
Kondesala.

*Page* 225.—

58. **HABENARIA** *Willd.*

Cooke (in Fl. Bomb. II, p. 710) separates *Peristylus* Blume and *Platanthera* Rich. from *Habenaria*.

*Page* 232.—For *H. Wightii* Trim. read:

**H. elata** (Dalz.). *Peristylus elatus* Dalz. in Hk. Kew Journ. III, p. 344 (1851). *Habenaria Wightii* Trim. Syst. Cat. p. 91 (1885).

*Page* 235.—

**Habenaria cubitalis** R. Br.
Dolosbagie.

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*Page* 238.—

## CXXVII.—SCITAMINEÆ.

Stam. 1:
Cal. tubular, funnel-shaped, or spathiform anth. 2-celled (*Zingibereæ*).
Ov. 1-celled, placentas 3, parietal . . 1. GLOBBA.
Ov. 3-celled, placentas axile:
Lateral staminodes broad:
Anth. cells spurred at base . . 2. CURCUMA.
Anth. cells not spurred at base:
Connective broad, crested:
Fls. subtended by a bract and bracteole resembling each other 2a. GASTROCHILUS.
Fls. subtended by a crest and 2 smaller bracteoles which are connate at the base . . . 3. KÆMPFERIA.
Connective narrow, not crested . 4. HEDYCHIUM.
Lateral staminodes small or wanting:
Infl. terminal on the leafing stem:
Anth. adnate to the petaloid fil. . 5. COSTUS.
Anth. free . . . . . 6. LANGUAS.
Infl. on a radical leafless ped.
Flg. stem simple: 7. AMOMUM.
Anth. with a very broad crest or 0
Anth. with an elongate terminal spur . . . . . . 8. ZINGIBER.
Flg. stem branched:
Anth. crested . . . . 9. CYPHOSTIGMA.
Anth. not crested . . . 10. ELETTARIA.
Cal. of 3 sep.; anth 1-celled:
Staminodes 3, petaloid, connate (*Maranteæ*):
Stem branched, leafy . . . . 11. SCHUMANNIANTHUS.
Leaf solitary:
Spike sessile on the rootstock . . 11a. STACHYPHRYNIUM.
Spike lateral, high up on the petiole . 12. PHRYNIUM.
Staminodes 4 (*Canneæ*) . . . . 13. CANNA.
Stam. 5 (*Museæ*) . . . . . . 14. MUSA.

*Page* 240.—

**Globba bulbifera** Roxb.
K. Schumann (in Engl. Pflreich. IV, 46, p. 154) says "Auf Ceylon Wahrscheinlich verwildert," but as it occurs in S. India there appears to be no reason why it should not be wild here.

**Part IV.**

## 2. **CURCUMA** *Linn.*

Infl. lateral (*Exantha*):
Spike many-fls.; bracts purple-tipped:
Leaves quite green . . . . . . . 1. C. AROMATICA.
Leaves with a purple-brown cloud along the costa . . . . . . . . 2. C. ZERUMBET.
Spike few-flowered; bracts with a greenish tip; leaf light green, mottled with dark green . 3. C. OLIGANTHA.
Infl. terminal; l. quite green (*Mesantha*):
Bracts dark green; small plant . . . 4. C. ALBIFLORA.
Bracts white or light green; large plant; fls. exserted . . . . . . . . *C. domestica.*

1. C. AROMATICA Salisb. Parad. Lond. t. 96 (1808). ?*Curcuma longa* Linn. Sp. Pl. p. 2 (1753) pp.; Val. in Bull. Jard. Buit., sér. 2, XXVII, p. 79 (1917–8).

Page 241.—For *C. Zedoaria* Roscoe read:

2. **C. Zerumbet** Roxb. in As. Res. XI, p. 332 (1810). *C. officinalis* Salisb. in Trans. Hort. Soc. I, p. 285 (1812). *C. Zedoaria* Roscoe. Scit. Pl. t. 109 (1828) non Roxb. *C. speciosa* Link. Enum. Hort. Berd. II, p. 3 (1821). *Amomum Zedoaria* Berg. Mat. Med. p. 41 (1788). *A. latifolia* Lamk. Encycl. I, p. 134 (1783) non *C. latifolia* Roxb.

*Page* 242.—For *C. longa* Linn. read:

C. DOMESTICA Val. in Bull. Jard. Buit., sér. 2, XXVII, pp. 31, 153 (1917–8); Petch in Ann. Perad. VII, p. 160 (1920). *C. longa* Trim. non Linn.

*Page* 243.—

## 2a. **GASTROCHILUS** *Wall.* (non *Don*).

Rootstock short; stem short or 0; ligule of 2 distinct auricles; infl. a terminal unilateral, dense-flowered spike, enclosed by the leaf-sheath; each fl. enclosed by a bract and a bracteole resembling each other; calyx tube short, cylindric, bifid; corolla-lobes connivent, dorsal lobe erect, anterior lobes patent; staminodes broad, resembling the petals, lateral erect, shorter than the lip; lip decurved, much longer than the petals and staminodes; stamen filaments about as long as the anther, free; anther exserted from the throat, facing the lip, crested.

*Page* 243.—For *Kæmpferia pandurata* Roxb. read:

**Gastrochilus rotundus** (Linn.). *Curcuma rotunda* Linn. Sp. Pl. p. 2 (1753). *C. longa* Linn. l. c. pp. *Kæmpferia ovata* Roscoe in Trans. Linn. Soc. VIII, p. 351 (1807). *K. pandurata* Roxb. in As. Res. XI, p. 328 (1810). *Gastrochilus panduratus* Ridl. in Journ. As. Soc. Beng. p. 110 (1899); Val. in Bull. Jard. Buit., sér. 2, XXVII, p. 91 (1917–8).

*Page* 243.—

### 3. **KÆMPFERIA** *Linn.*

| | |
|---|---|
| Flowering and leaf bearing stems on separate bulbs . | K. ROTUNDA. |
| Inflorescence from the centre of the leafy stem . . | *K. Galanga.* |

**K. rotundus** Linn.
Also in India and Malaya.

*Page* 247.—For *Alpinia* Linn. read:

### 6. **LANGUAS** *Koen.*

| | |
|---|---|
| Infl. paniculate: | |
| Panicle broad, erect or inclined; lip long-clawed: | |
| Fls. pink; fruit black . . . . . . | 1. L. CHINENSE. |
| Fls. white; fruit red . . . . . . | *L. Galanga.* |
| Panicle narrow, drooping; lip sessile; fruit red: | |
| Fls. large; lvs. 3–6 in. broad . . . . | 2. L. SPECIOSUM. |
| Fls. small; lvs. 1–2 in. broad . . . . | *L. calcaratum.* |
| Infl. capitate . . . . . . . . . | 3. L. RUFESCENS. |

*Page* 247.—For *Alpinia Allughas* Rosc. read:

1. **Languas chinense** Koenig in Retz. Obs. III, p. 65 (1783). *Heritiera Allughas* Retz. Obs. VI, p. 17 t. 1 (1791). *Alpinia Allughas* Rosc. in Trans. Linn. Soc. VIII, p. 346 (1807).

*Page* 249.—For *Alpinia Galanga* Sw. read:

LANGUAS GALANGA Stuntz, in U.S. Dept. Agr. Bur. Pl. Ind. Bull. no. 261, p. 21 (1912). *Maranta Galanga* Linn. Sp. Pl., ed. 2, p. 3 (1762). *Languas vulgare* Koenig in Retz. Obs. III, p. 64 (1783). *Alpinia Galanga* Sw. Obs. Bot. p. 8 (1791).

*Page* 248.—For *Alpinia nutans* Roscoe read:

2. **Languas speciosum** Small Fl. S.E. U.S., ed. 2, p. 307 (1913). *Zerumbet speciosum* Wendl. Sert. Hann. t. 19 (1798). *Alpinia nutans* Roscoe in Sm. Ex. Bot. II, t. 106 (1805).
Var. **sericea** Moon Cat. p. 1 (sp.).

*Page* 249.—For *Alpinia calcarata* Roxb. read:

LANGUAS CALCARATUM (Roscoe). *Alpinia calcarata* Roscoe in Trans. Linn. Soc. VIII, p. 347 (1807).

For *Amomum rufescens* Trim. read:

**Languas rufescens** (Thw.). *Elettaria rufescens* Thw. Enum. p. 430 (1864). *Amomum rufescens* Benth. in Benth. & Hk. f. Gen. Fl. III, p. 645 (1883). *Alpinia rufescens* K. Sch. Zingiberaceæ in Engl. Pflanzenreich IV, 46, p. 322 (1904).

L. VITELLINUM (*Amomum vitellinum* Lindl.) is a native of Malacca not of Ceylon.

*Page* 257.—

### 7. **AMOMUM** *Linn.*

This genus is usually split up by modern authors, *e.g.* Ridley in Flor. Mal. Pen., Valeton in Bull. Jard. Buit., K. Schumann in Engl.

Pflanzenreich, into *Geanthus, Phæomeria, Nicolaia,* etc. I have however retained the wide sense for the present.

*Page* 253.—For *A. ciliatum* Baker read:

8. **A. trichostachyum** nom. nov.* *A. ciliatum* Baker in Fl. Brit. Ind. VI, p. 238 (1892) non Blume. *Phæomeria ciliata* K. Sch. Zingiberaceæ in Engl. Pflanzenreich IV, 46, p. 266 (1904).

*Page* 254.—

9. **A. hypoleucum** Thw.
Also in S. India and Java.

*Page* 255.—For *A. echinatum* Willd. read:

11. **A. echinocarpum** sp. nov.† *A. echinatum* Moon Cat. p. 2 (1824); Thw. Enum. p. 316 (1861); Baker in Fl. Brit. Ind. VI, p. 242 (1894); Trim. Fl. Ceyl. IV, p. 38 (1898); K. Sch. Zingiberaceæ in Engl. Pflanzenreich IV, 46, p. 255 (1904) non Willd.; Val. in Merr. Interp. Rumph. p. 160 (1917).

Valeton states that our plant is not Willdenow's species.

*Page* 258.—For *Zingiber Cassumar* Roxb. read:

**Z. purpureum** Roscoe in Trans. Linn. Soc. VIII, p. 348 (1807). *Z. Cassumar* Roxb. in As. Res. XI, p. 347 (1810).

*Page* 260.—

9. **CYPHOSTIGMA** *Benth.*

K. Schumann distinguishes a second Ceylon species as follows:

"Folia lineari-lanceolata vel lanceolata, bracteæ scariosæ, flores sessiles . . . . 1. C. PULCHELLUM.
Folia latiore obovato-oblonga, bracteæ membranaceæ, flores pedicellati . . . . 2. C. PEDICELLATUM."

C. PEDICELLATUM K. Sch. may be the white-flowered species represented by a drawing at Peradeniya.

*Page* 262.—For *Clinogyne* Salisb. read:

11. **SCHUMANNIANTHUS** *Gagnep.*

**S. virgatus** Rolfe in Journ. Bot. XLV, p. 244 (1907). *Phrynium virgatum* Roxb. in As. Res. XI, p. 324 (1810). *Maranta paniculata* Moon, in Ceyl. Govt. Gazette (1821). *Clinogyne virgata* Benth. in Benth. & Hk. f. Gen. Fl. III, p. 651 (1883). *Donax virgata* K. Sch. Marantaceæ in Engl. Pflanzenreich IV, 48, p. 33 (1902).

11a. **STACHYPHRYNIUM** *K. Sch.*

Rootstock creeping; l. radical, large, long-petioled; spike on a radical ped., bracteate, dense-fld.; sep. 3, subequal,

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* Affinis *A. Maingayi* Bak. sed ligula pilosa differt.—Typus: C.P. 3704.

† Affinis *A. echinato* Willd. fructus spinis curvatis differt.—Typus: C.P. 3020.

linear-oblong, spreading; stam.-tube longer than the cor.-tube, segm. unequal, petaloid; anth. 1-celled; fr. subglobose, indehiscent or rarely dehiscent.—Sp. 8.

For *Phrynium zeylanicum* Bth. read:

**Stachyphrynium zeylanicum** K. Sch. Marantaceæ in Engl. Pflanzenreich IV, 48, p. 46 (1902). *Phrynium zeylanicum* Benth. in Gen. Pl. III, p. 653 (1883).

For *Phrynium capitatum* Willd. read:

**P. ovatum** Druce in Rep. Bot. Excl. Cl. 1913, p. 422 (1914). *Pontederia ovata* Linn. Sp. Pl. p. 288 (1753). *Phrynium capitatum* Willd. Sp. Pl. I, p. 17 (1797).

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**Sansevieria zeylanica** Willd. Sp. Pl. II, p. 159 (1799); Livera in Ann. Perad. IX, p. 192 (1924); N. E. Br. in Kew Bull. 1915, p. 227. *Aloe hyacinthoides* var. *zeylanica* Linn. Sp. Pl. p. 321 (1753).

Stemless; rootstock creeping stoloniferous; l. 5–12 in., a tuft erect of ascending; slightly falcate, about 2½ ft. long, 1¼ in. broad, pale green with transverse bands of dark green, concave above; margin membranaceous, colourless or green, turning brownish red as the leaf dies; the outer leaves more or less flat, the inner almost semi-terte; all leaves longitudinally furrowed and on the back; infl. racemose, 1–2 ft.; fls. in suberect fascicles of 6 on a minute swelling in the axils of bracts ½ in. long, jointed near the base; fl. ¼–½ in. across; fruit globose, about ½ in. diam.

Fl. greenish-white, somewhat scented.
Endemic.
The specimen described by Trimen was a cultivated one and *S. Roxburghiana,* which is considered distinct by N. E. Brown. The description is here amended after Livera.

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## CXXVIIIa.—IRIDACEÆ.

Perennial rhizomatous herbs; leaves linear, distichous; inflorescence terminal or axillary; flowers bisexual, usually regular; perianth corolline, superior; perianth-segments 6, biseriate; stamens 6, opposite the outer whorl of perianth segments; anth. erect or versatile; ovary inferior, 3-celled; ovules usually numerous in each cell; fruit a capsule; seeds subglobose; endosperm horny; embryo small.

ARISTEA *Ait.*

Inflorescence terminal; perianth tube short, segments subequal, twisting up spirally after flowering; stamens epipetalous; ovary 3-celled, with numerous superposed ovules in each cell; capsule loculicidally dehiscent.—Sp. 27; natives of S. Africa and Madagascar.

A. ECKLONI Bak. in Journ. Linn. Soc. XVI, p. 112 (1878).

Leaves linear, erect, 2 ft. long, ½ in. broad; peduncle about 14 in. high, bearing reduced leaves; infl. a lax corymbose panicle; fls. ½ in. across, on short pedicels; capsule elongated.

Common on the patanas about Hakgala; also near Nuvara Eliya. Fls. blue.
A native of S. Africa.

*Page* 268.—For *Agave americana* Linn. read:

A. VERA-CRUZ Mill. Gard. Dict., ed. 8, no. 7 (1768); Drumm. & Prain in Agr. Ledg. No. 7, p. 86 (1906). *A. americana* Trim. Fl. Ceyl. IV, p. 268 (1898) non Linn.
Native of Mexico?

For *A. vivipara* Linn. read:

FURCRÆA GIGANTEA DC. Pl. Succ. Hist. p. 126 (1799–1829). *Furcræa sp.* Drumm. & Prain l. c. p. 94. *A. vivipara* Trim. Fl. Ceyl. IV, p. 268 (1898) nec Linn. nec Wight.
Wight Ic. t. 2024 is *A. Wightii* Drumm. & Prain; the Ceylon plant has been identified as *F. gigantea* var. *Willemetiana* by Dr. W. Trelease. The variety appears to be specifically distinct from the plant cultivated in the Peradeniya Gardens as *F. gigantea* DC.

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1. **CURCULIGO** *Gaertn.*

Per-segm. sessile on the top of the ovary:
Fls. in a lax raceme . . . . . . 1. C. FINLAYSONIANA.
Fls. in a subcapitate raceme . . . . *C. capitulata.*
Per-segm. on the elongate slender top of the ovary . . . . . . . . . . 2. C. ORCHIOIDES.

For *C. recurvata* Dryand read:

C. CAPITULATA O. Ktze. Rev. Gen. p. 703 (1891). *Leucojum capitulatum* Lour. Fl. Cochinch. p. 199 (1790). *Curculigo recurvata* Dryand in Ait. Hort. Kew, ed. 2, II, p. 253 (1811).

*Page* 272.—

3. **PANCRATIUM** *Linn.*

Perianth-tube about 2 in.; staminal cup broad . . P. ZEYLANICUM.
Perianth-tube about 3 in.; staminal cup narrow . *P. verecundum.*
Perianth-tube about 6 in.; staminal cup broad . . *P. triflorum.*

*P. triflorum* Roxb.

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## 1. **DIOSCOREA** *Linn.**

Tubers produced in a bunch; stem twining to the left; leaves simple, alternate, cordate pubescent beneath; male fls. 1–2-nate in a long spike-like raceme . . . . . . *D. esculenta.*

Tubers vertical:

Stem twining to the left; seeds winged on one side only, in elongated, reflexed or horizontal capsules; lvs. alternate:

Leaves compound or rarely simple; perianth lobes just united at the base; male fls. in spikes or spike-like racemes:

Leaves softly tomentose beneath . . 1. D. TOMENTOSA.

Leaves glabrous or sparsely hairy beneath . . . . . . . 2. D. PENTAPHYLLA.

Leaves simple, ovate-cordate, glabrous; perianth-lobes free; male fls. in long dependent spikes . . . . . 3. D. BULBIFERA.

Stem twining to the right; seeds winged all round, in capsules which are not reflexed but face forwards; leaves usually opposite; perianth-lobes free; male fls. sessile on short axes:

Male fls. in axillary spikes and not on special leafless branches; stems not winged:

Leaves ovate or lanceolate:

Network of veins very prominent:

Leaves cuneate or cordate at base, alternate or opposite; capsule not acuminate . . . . . 4. D. SPICATA.

Leaves cuneate at base, opposite . 5. D. INTERMEDIA.

Network of veins not prominent; leaves opposite:

Leaves hastate-cordate, glabrous; capsule acuminate . . . . 6. D. TRIMENII.

Leaves cuneate at base; pubescent or glabrous; capsule not acuminate . . . . . . 7. D. OPPOSITIFOLIA.

Leaves cuneately-obovate, opposite: 8. D. OBCUNEATA.

Male fls. in spikes arranged on elongated leafless branches which become zigzag when dry; stems usually winged; lvs. hastate-cordate . . . . . . *D. alata.*

D. ESCULENTA Burkill in Gard. Bull. Straits Settl. I, p. 396 (1917). *Oncus esculentus* Lour. Fl. Cochinch. p. 194 (1790). *Dioscorea fasciculata* Roxb. Hort. Beng. p. 72 (1814) nomen; Fl. Ind., ed. 2, II, p. 801 (1832). *D. tiliæfolia* Kunth. Enum. V, p. 401 (1840). *D.*

* After D. Prain and I. H. Burkill—A Synopsis of the Dioscoreas of the Old World, in Journ. As. Soc. Beng. X, pp. 5–41 (1914).

*sativa* Hk. f. in Trim. Fl. Ceyl. IV, p. 278 (1898) pp. ?Linn. *D. aculeata* Prain and Burkill in Journ. As. Soc. Beng. X, p. 19 (1914) non Linn. **Panu-konda, Hin-kukul-ala,** *S.* **Siru-valli-kilangu, Mullu-valli-kilangu, Siru-kilangu,** *T.*

Cultivated.

Var. FASCICULATA (P. & B.) *D. aculeata* var. *fasciculata* Prain and Burkill l. c. **Javala, Katu-kukul-ala, Maha-kukul-ala,** *S.*

Cultivated.

Native of Burma?

1. **D. tomentosa** Linn.

**Mul-valli-kilangu,** *T.*

2. **D. pentaphylla** Linn. **Mallai-valli-kilangu, Shini-valli-valli-kilangu,** *T.* (Gamble).

Var. **Linnæi** Prain and Burkill l. c. p. 23.

Root tubers elongated, with white juicy flesh; plant with white hairs particularly on the male flowers; leaves somewhat shining.

Hantane.

Var. **Thwaitesii** Prain and Burkill l. c.

Leaves thinner, not shining.

Hantane.

Var. *Thwaitesii* is probably a slender form not worth distinguishing.

Throughout Tropical Asia and Oceania.

3. **D. bulbilifera** Linn. Sp. Pl. p. 1035 (1753); Prain and Burkill l. c. p. 26. *D. pulchella* Roxb. Hort. Beng. p. 72 (1814) nomen; Fl. Ind. III, p. 801 (1832). *D. sativa* Hk. f in Trim. Fl. Ceyl. IV, p. 278 (1898). pp. ?Linn. **Udala, Panu-kondal,** *S.*

Throughout Tropical Asia and Oceania.

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4. **D. spicata** Roth. Nov. Sp. p. 571 (1821); Hk. f. in Trim. Fl. Ceyl. IV, p. 277 (1898) pp.; Prain and Burkill l. c. p. 29.

Var. **parvifolia** Prain and Burkill l. c. *D. intermedia* Trim. l. c. p. 277 pp.

Leaves 3–4 in. long.

Maturata; near Medamahanuvara; Kukul Korale.

Var. **anamallayana** Prain and Burkill l. c.

Leaves larger, up to 10 in. long.

Ambagamuva; Sabaragamuva; Vatagoda.

Also in S. India.

5. **D. intermedia** Thw. Enum. p. 326 (1864); Hk. f. Trim. l. c. p. 277 pp.; Prain and Burkill l. c. p. 29. *D. spicata* Hk. f. in Trim. l. c. p. 277 pp. **Gon-ala,** *S.* (?) **Kombu-valli-kilanu,** *T.*

Between Negombo and Kurunegala; between Haragama and Rajavella; Ganoruva?

Also in S. India.

6. **D. Trimenii** Prain and Burkill l. c. p. 29. *Dioscorea spicata* Hk. f. in Trim. l. c. p. 277 pp.

Root tubers unknown; stem glabrous, thin, unarmed; leaves opposite, ovate-lanceolate, hastate-cordate, acuminate,

glabrous, lamina $2\frac{1}{2}$–4 in. long, $\frac{3}{4}$–$1\frac{1}{2}$ in broad, 7-nerved, drying black; petiole 1–2 in. long; flowers unknown; capsules acute at the base, 1–$1\frac{1}{2}$ in. long, apex acuminate, wings semicircular, rarely $\frac{3}{4}$ in. broad, brown.

Moist country; very rare (?) Ambagamuva.
Endemic.

7. **D. oppositifolia** Linn. **Jambu-ala,** *S.* **Podhali-valli-kilangu,** *T.* (Burkill).

Var. **Linnæi** Prain and Burkill l. c. p. 276. *D. spicata* Hk. f. l. c. pp.

Leaves glabrous, broadly lanceolate or ovate.

Var. **Thwaitesii** Prain and Burkill l. c.

Leaves pubescent, lanceolate-ovate or broadly ovate, drying brown.

Hantane.
Also in S. India.

8. **D. obcuneata** Hk. f. Fl. Brit. Ind. VI, p. 293 (1892); Prain and Burkill l. c. p. 30.

D. ALATA Linn. Sp. Pl. p. 1033 (1753); Prain and Burkill l. c. p. 39. *D. purpurea* Roxb. Fl. Ind. III, p. 800 (1832). **Buina-ala, Kahata-kondal, Kiri-kondal, Katu-arg-ala, Vel-ala, Hinguru-ala, Angilis-ala, Gere-arg-ala, Ratta-ballu, Kohata-ala, Jaffana-ala, Gulakiri-wel-ala, Bonderi-ala, Raja-ala, Rata-kondal, Rata-vel-ala, Kiri-vel-ala,** *S.* **Vettilai-valli-kilangu, Naga-valli-kilangu, Peru-valli-kilangu, Pedu-chari-valli-kilangu, Sakkra-valli-kilangu, Raja-valli-kilangu,** *T.*

*Page* 282.—

1. **SMILAX** *Linn.*

Umbels in short axillary spikes . . . . . 1. S. ASPERA.
Umbels solitary or racemose :
  Racemes 1–4 umbelled :
    L. 3–4 in. long; petioles $\frac{1}{2}$–1 in. . . . 2. S. ZEYLANICA.
    L. 1–$2\frac{1}{2}$ in. long; petioles very short . . . 3. S. RETTIANA.
  Racemes 5–15 umbelled . . . . . 4. S. PROLIFERA.

3. **S. Rettiana** Willis in Ann. Perad. V, p. 221 (1911) nomen; Livera in Ann. Perad. XI, p. 103 (1928).

A scandent, unarmed or very sparingly prickly shrub; l. $2\frac{1}{2}$ in. long, $\frac{1}{2}$–$1\frac{1}{4}$ in. broad, ovate-elliptic or ovate-lanceolate, cuneate or more rarely subcordate at base, usually acute and acuminate, 3–5-veined, coriaceous; petiole under $\frac{1}{4}$ in., cirrhiferous; infl. umbellate; umbels about $\frac{3}{4}$ in. diam.; peduncle about $\frac{1}{4}$ in.; fl. not seen; berries globose, under $\frac{1}{4}$ in. diam.; pedicels $\frac{1}{10}$–$\frac{2}{10}$ in. long.

Top of Naminakula 6680 ft.
Endemic.

*Page* 293.—For *Scilla indica* Baker read:

**S. hyacinthina** (Roth.). *Ledebouria hyacinthina* Roth. Nov. Sp.

p. 195 (1821). *Scilla indica* Baker in Saund. Ref. Bot. III, App. 12 (1870) non Roxb. ?**Naga-maru-ala,** *S.* **Thungai-kolai,** *T.*

Between Mannampitiya and Gunner's Quoin.

The meaning of the Sinhalese name is given by Spittel (Wild Ceylon p. 195); his plant, however, sounds like an orchid, perhaps a species of *Habenaria,* and he speaks of a red variety which is unknown to me. The Mannampitiya specimens were called Thungai-kolai by the villagers and were not in flower.

**Iphigenia indica** A. Gray.
Gal-modua.

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## CXXXIV.—PONTEDERIACEÆ.

Perianth segments free to the base . . . . 1. MONOCHORIA.
Perianth segments united into a tube below . . 2. *Eichornia.*

For *Monochoria hastæfolia* Persl. read:

1. **M. hastata** Solms in A. DC. Mon. Phan. IV, p. 523 (1883). *Pontederia hastata* Linn. Sp. Pl. p. 288 (1753). **Diya-habarala, Sabara,** *S.* (Hermann).

2. **M. vaginalis** Presl. **Diya-habarala,** *S.* (Thwaites), **Jabara,** *S.*

### 2. EICHORNIA *Kunth.*

Aquatic herb, creeping and rooting in the mud or floating; leaves ovate or orbicular, with long petioles inflated at the base; infl. spicate; perianth funnel-shaped, segments unequal, and the upper segments marked with a spot; stamens 6, the 3 upper included, the 3 lower exserted; anthers dorsifixed; ovary sessile, trilocular; ovules numerous in each cell; fruit a capsule.—Sp. 5.

E. CRASSIPES Solms. in A. DC. Mon. Phan. IV, p. 527 (1883); Petch in Ann. Perad. VII, p. 330 (1922). *Pontederia crassipes* Mart. Nov. Gen. and Sp. I, p. 9 t. 9 (1824). *P. azurea* Hk. f. Bot. Mag. t. 2932 non Sw. *Eichornia speciosa* Kunth. Enum. IV, p. 131 (1843). **Japan Yabara,** *S.* (Petch) **Water Hyacinth,** *E.*

Rhizome creeping or floating with tufts of leaves and roots at intervals; leaf-blade ovate or orbicular, often acuminate, $1\frac{1}{2}$–$3\frac{1}{2}$ in. long, glabrous; petiole 2–12 in. long; infl. 6–12 in. high, sparingly pubescent; fl. sessile; perianth $1\frac{1}{2}$–2 in. across; perianth segments obovate-elliptic; stam, filaments puberulous; style capitate, included.

Low country, in tanks; not native. Fl. July, Oct.; mauve with a violet blotch and a yellow spot on the upper petal, corolla tube green.

Native of S. America.

*Page* 308.—For *Aneilema nudiflorum* R. Br. read:

6. **A. malabaricum** Merr. in Phil. Journ. Sc. Bot. VII, p. 232 (1912). *Tradescantia malabarica* Linn. Sp. Pl. ed. 2, p. 412 (1762). *Commelina nudicaulis* Burm. f. Fl. Ind. p. 17 t. 18 f. (1768). *Aneilema nudiflorum* R. Br. Prodr. p. 271 (1810).

*Page* 310.—For *A. protensum* Wall. read:

10. **A. scaberrinum** Kunth Enum. IV, p. 69 (1843). *Commelina scaberrima* Blume Enum. I, p. 4 (1827). *Dictyospermum protensum* Wight Ic. t. 2071 (1853). *Aneilema protensum* Wall. Cat. no. 5218 (1830) nomen; Clarke Comm. Beng. t. 24 (1874).

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## 4. **CYANOTIS** *Don.*

Fls. in scorpioid cymes, with large imbricating bracteoles:
  Style bearded:
    Roots fibres slender:
      Leaves 3–10 in. long, $\frac{3}{4}$–$1\frac{1}{2}$ in. broad, glabrous above; large plant . . . 2. C. OBTUSA.
      Leaves 1–2 in. long, $\frac{1}{4}$ in. broad, cobwebby; small plant . . . . . . 6. C. FASCICULATA.
    Roots fibres stout, ending in cylindrical tubers . . . . . . . 3. C. TUBEROSA.
  Style naked:
    Flg. stem suberect:
      Leaves glabrous beneath . . . . 4. C. ZEYLANICA.
      Leaves villous beneath; fls. 0·4 in. diam. . 5. C. VILLOSA.
    Fls. stems prostrate:
      Spathe subsessile; fls. 0·25 in. diam. . 7. C. PILOSA.
      Spathe peduncled . . . . . 1. C. CRISTATA.
Fl. fascicled, bracteoles concealed in the l. sheaths . . . . . . . . . 8. C. AXILLARIS.

1. **C. cristata** Schultes f.; Livera in Ann. Perad. IX, p. 187 (1924).

Stamen filaments not fusiformly thickened; fl. heliotrope (Livera).

3. **C. tuberosa** Schultes f.; Livera op. cit. p. 188.

Style bearded; fl. heliotrope (Livera).

4. **C. zeylanica** Hassk.; Livera op. cit. p. 188. ?*Commelina zeylanica* Falk. ex Just, Jahresb. IV, p. 406 (1876).

Stamen filaments fusiform (Livera).

5. **C. villosa** Schultes f.; Livera op. cit. p. 189.

Stamen filaments fusiformly thickened (Livera).

6. **C. fasiculata** Schultes f.; Livera op. cit., p. 189.

Stamen filaments fusiformly thickened; style bearded (Livera).

7. **C. pilosa** Schultes f.

Filaments somewhat thickened below (A. M. Smith ms.).

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1. **Areca Catechu** Linn. **Pakku,** *T.*

*Page* 322.—

2. **A. concinna** Thw.
Kalutara (F. Lewis).

*Page* 326.—

**Nipa fruticans** Wurmb.
Kandana, near Colombo (A. de Silva).

*Page* 328.—

**Corypha umbraculifera** Linn. **Talapattu,** *T.* (F. Lewis).

*Page* 334.—

8. **Calamus digitatus** Roxb.
Delgoda.

*Page* 335.—

9. **C. zeylanicus** Becc.
Kandy.
*C. polystachys* Becc. in Ann. Bot. Jard. Calc. XI, p. 383 (1908) has not been found in Ceylon.

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1. **PANDANUS** *Linn.*

Drupes many-celled, few; spadix solitary:
Cells 5–12 . . . . . . . . 1. P. TECTORIUS.
Cells usually 3 . . . . . . . . *P. Kaida.*
Drupes 1-celled:
Fem. spadix solitary . . . . . . 2. P. ZEYLANICUS.
Fem. spadices spicate . . . . . . 3. P. THWAITESII.

*Page* 339.—For *Pandanus odoratissimus* Linn. f. read:

1. **P. tectorius** Sol. ex Parkinson Voy. Endeavour p. 46 (1773); Warb. Pandanaceæ in Engl. Pflanzenreich IV, 9, p. 46 (1900). *P. odoratissimus* Linn. f. Suppl. p. 424 (1781).

*Page* 340.—For *P. fœtidus* Roxb. read:

3. **P. Thwaitesii** Martelli in Webbia I, p. 369 (1904). *P. humilis* Moon Cat. p. 67 (1824); Thw. Enum. p. 327 (1861) non Lour. *P. fœtidus* var. *racemosus* Trim. Fl. Ceyl. IV, Trim. Fl. Ceyl. IV, p. 340 (1898) non Kurz. *Freycinetia macrocarpa* Gaudich. in Freyc. Voy. t. IV, t. 2–8 (1826).
Endemic.

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## CXLII.—ARACEÆ.

Plants erect :
  Floating stemless herb ; ovary solitary . 1. Pistia.
  Terrestrial herbs :
    Fl. unisexual :
      L. simple or lobed ; herbs, usually bearing leaves and flowers simultaneously :
        Ovaries in one whorl at the base of the spadix . . . . . . 2. Cryptocoryne.
        Ovaries in several whorls, or spirally arranged :
          Ovules orthotropous :
            Aquatic or marsh plants ; lvs. cuneate at base . . . 3. Lagenandra.
            Terrestrial herbs ; lvs. cordate or sagittate at base :
              Ovules few, basal :
                Anth. cells broader than the connective ; spathe red-purple or green . . 5. Typhonium.
                Anth. cells narrower than the fleshy, prismatic truncate connective ; spathe not red . . . . . 11. Alocasia.
              Ovules many, parietal :
                Limb of spathe refracted . 9. Remusatia.
                Limb of spathe erect :
                  L. 3-lobed . . . . . 6. Theriophonum.
                  L. entire, peltate . . 10. Colocasia.
          Ovules anatropous or semi-anatropous :
            Ovules numerous ; spathe persistent :
              Style wanting ; lvs. usually variegated . . . . 10a. *Caladium.*
              Style discoid ; lvs. green . . 10b. *Xanthosoma.*
            Ovules solitary :
              Spathe persistent . . . 10c. *Dieffenbachia.*
              Spathe deciduous . . . 10d. *Aglaonema.*
      L. compound :
        Herbs bearing leaves and fls. simultaneously ; ovules orthotropous . 4. Arisæma.
        Herbs usually bearing fls. and leaves at different seasons ; ovules anatropous . . . . . . . . 7. Amorphophallus.
    Fl. bisexual :
      Prickly herbs, with long twisted spathe 14. Lasia.
      Unarmed herbs, with ensiform lvs. . 15. Acorus.
Scandent herbs or shrubs :
  Fl. unisexual :
    Lvs. simple . . . . . . . 15a. *Philodendron.*

Lvs. compound . . . . . . . 15b. *Syngonium.*
Fls. bisexual :
Perianth wanting . . . . . . 12. RAPHIDOPHORA.
Perianth of 4–6 scales . . . . . 13. POTHOS.

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## 2. CRYPTOCORYNE *Fisch.*

Collar of spathe yellow or green :
Limb becoming flattened, collapsing backwards when dead, yellow outside . . . 1. C. LUTEA.
Limb permanently twisted, collapsing forwards when dead, greenish outside . . 2. C. WALKERI.
Collar of spathe purple :
Limb yellow or green . . . . . . 3. C. BECKETTII.
Limb purple :
Leaves not pustular :
Leaves oblong, cordate, spreading . . 4. C. PETCHII.
Leaves lanceolate, growing erect :
Limb of spathe smooth . . . . 5. C. NEVILLII.
Limb transversely rugose . . . 5a. *C. spiralis.*
Leaves pustular, oblong, cordate . . . 6. C. THWAITESII.

1. **C. lutea** sp. nov. *C. sp.* Petch in Ann. Perad. XI, p. 21 (1928). **Atiudayan,** *S.*

Rootstock slender; leaves usually long petioled, up to 7 in. long; petiole up to 3½ in.; lamina up to 3½ in. long, 1 in. broad, varying to a length of 3½ in.; lamina ovate-lanceolate, often inequilateral, apex obtuse, margin crisped, base subcordate with a wide sinus; cross veins prominent, purple beneath; spathe 4 in. long; pedicel ½ in.; bulb ⅔ in.; tube 2 in.; limb 1 in. long, lanceolate, acute, rugose, not twisted, green turning yellow-green on both surfaces; collar of the same colour as the limb; tube expanding slightly upwards, white, sprinkled purple-red.

Yatiellagala. Fl. Oct.
Var. **minor.** *C. Walkeri* Petch l. c. p. 22 pp. t. IV, f. 5, 7, 8.

Rootstock stout; spathe under 3 ins.; limb smooth fruit globose, $\frac{3}{10}$ in. diam., furrowed, crowned with the remains of the styles.

Halloluva.
Endemic.

2. **C. Walkeri** Schott.; Petch l. c. p. 22 pp. **Atiudayan,** *S.*
Ganoruva. Fl. Feb.
The name Atiudayan appears to be applied to all species of *Cryptocoryne.*

3. **C. Beckettii** Thw.; Petch l. c. p. t. IV, f. 1–4. **Atiudayan.**
Ganoruva; Kadugannava; Halloluva, Heendeniya (Van Buuren). Fl. Jan., Apr., Oct.

4. **C. Petchii** sp. nov. *C. sp. indet.* Petch l. c. p. 22 t. V, f. 1–5. **Atiudayan,** *S.*

Rootstock stout; leaves up to 3 in. long; petiole as long as the lamina; lamina $\frac{3}{4}$ in. broad, oblong oval; apex subacute, base cordate; spathe up to $\frac{3}{4}$ in. long; pedicel $\frac{1}{5}$ in.; bulb $\frac{1}{2}$ in.; tube $\frac{3}{4}$–$1\frac{1}{2}$ in.; limb $\frac{3}{4}$–$1\frac{1}{2}$ in., triangular elongate, acute, slightly twisted, appearing smooth but minutely rugose or lacunose; margin dentate, dark olive-green or blackish-green; collar dark purple; tube white; mottled purple; carpels 5–7; styles curved outwards; stigmas capitate.

Ratnapura. Fl. Jan.
Endemic.
I have followed Petch in considering this and *C. lutea* distinct from *C. Beckettii,* of which I suspect they are only colour varieties.

5. **C. Nevillii** Trim.; Petch l. c. p. 23 t. V, f. 6–12.
Yatiellagala; Halloluva; Kailla. Fl. Feb., June, Nov.

5a. C. SPIRALIS Fisch.

This species was originally described by Retzius from a specimen collected at Tranquebar by Koenig. I suspect that Trimen was mistaken in giving Ceylon as the locality of Koenig's specimen.

*Arum spirale* is said by Mrs. Walker, Journ. Bot. II, p. 229, to have been frequent on the banks of the Genderah river at Hiniduma in January, 1837, but I suspect that *C. Walkeri* (which was called *C. spiralis* by Thwaites) was intended.

*Page* 348.—

2. **Lagenandra lancifolia** Thw.
Delete the name Ati-udayan as Trimen's specimen was a *Cryptocoryne.*
Rare? Ambagamuva.

*Page* 349.—For *L. toxicaria* Dalz. read:

3. **L. ovata** Thw. Enum. p. 334 (1864). *Arum ovatum* Linn. Sp. Pl. p. 967 (1753). *Lagenandra toxicaria* Dalzell in Hk. Journ. Bot. IV, p. 289 (1852).

*Page* 355.—For *Theriophonum crenatum* Blume read:

**T. minutum** Baill. Hist. Pl. XIII, p. 457 (1895). *Arum minutum* Willd. Sp. Pl. IV, p. 484 (1806). *Theriophonum crenatum* Blume in Rumphia I, p. 128 (1835).
Also in India.

### 7. AMORPHOPHALLUS *Blume.*

Engler (Araceæ in Engl. Pflanzenreich IV, 23c, p. 63 distinguishes *A. dubius* and *A. campanulatus* as follows:

Appendix lævis . . . . . . . . *A. dubius.*
Appendix valleculosa . . . . . . *A. campanulatus.*

*Page* 357.—For *Synantherias sylvatica* Schott. read:

3. **Amorphophallus sylvaticus** Kunth. Enum. III, p. 34 (1841); Engl. Araceæ in Engl. Pflanzenreich IV, 23c, p. 103 (1911). *Arum sylvaticum* Roxb. Hort. Beng. p. 103 (1814) nomen; Fl. Ind.

**Part IV.**

III, p. 511 (1832). *Synantherias sylvatica* Schott. Gen. Aroid. t. 28 (1858). *Amorphophalus zeylanicus* Blume Rumphia I, p. 148 (1835).

*Page* 359.—For *Colocasia Antiquorum* Schott. read:

**C. esculenta** Schott. Melet. I, p. 18 (1832). *Arum esculentum* Linn. Sp. Pl. p. 965 (1753). *Colocasia Antiquorum* Schott. l. c.

### 10a. Caladium *Vent.*

Tuberous, monœcious herb; stem rooting from above the tuber; leaves few, long-petioled, simple, subpeltate, hastate; spathe long peduncled; tube thick-walled, ellipsoid; limb elliptic, hooded; spadix shorter than the spathe; fls. included in the tube; male exserted; appendage 0; male and female infls. separated by zone of sterile fls.; male infl. clavate, acute, of densely packed flat-topped, hexagonal, fleshy synandria; pollen emitted in threads; female infl. oblong ovoid; ovary 2–3-locular, with numerous ovules in each loculus; style wanting; stigma depressed hemispherical.—Sp. 9; American.

C. bicolor Vent. Jard. Cels. t. 30 (1800); Engl. in Mon. Phan. II, p. 457 (1879). *Arum bicolor* Ait. Hort. Kew, III, p. 316 (1789).

Tubers about 1 by 2 in., depressed globose; leaves hastate, about 8 by 9 in., membranaceous, green, more or less spotted with red or white; young leaves rounded at the base; sinus deep in mature leaves; lobes obtuse; apex acute; petiole about 10 in., sheathing at the base; spathe about 4 in. long; tube $1\frac{1}{4}$ in., glaucous green; limb $2\frac{1}{2}$ in. cream-coloured outside, white within; spadix about 3 in., male portion 2 in., cream-coloured; fruit not seen.

Low country in wet places; introduced. Peradeniya. Fl. Apr. Native of S. America.

### 10b. Xanthosoma *Schott.*

X. sagittifolium Schott. Melet. I, p. 19 (1832); Engl. in Mon. Phan. II, p. 469 (1879). *Arum sagittifolium* Linn. Sp. Pl. p. 1369 (1753) pp. ?*Xanthosoma violaceum* Schott. in Oest. Bot. Wochenbl. III, p. 370 (1853). ?*Alocasia violacea* Gardn. ex Parsons List. Perad. p. 9 (1926) nomen.

Cultivated and occasionally seen as an escape.

*X. violaceum* Schott. may possibly be distinct, though the character given by Engler does not appear to be valid.

Native of the W. Indies.

### 10c. Dieffenbachia *Schott.*

Shrubby perennials; stem erect or prostrate; leaves crowded towards the top of the stem, simple; spathe persistent; spadix erect, rather shorter than the spathe; female

infl. adnate to the spathe, many-flowered; male infl. free, exserted, appendage 0; male and female infls. separated by a zone of neuter fls.; stam. of male fls. 4–5; fem. fls. with 4–5 linear staminodes; ovary 2–3 celled, with 1 erect antropous ovule in each cell; fruit a berry.—Sp. 6; natives of Tropical America.

D. SEGUINE Schott. Melet. I, p. 20 (1832); Engl. in DC. Mon. Phan. II, p. 445 (1899). *Arum Seguine* Jacq. Enum Pl. Carib. p. 31 (1760).

Stem thick, lower part prostrate, upper part ascending; lamina to 1½ ft. long, ovate-oblong, glabrous, green with white spots; petiole about 8 in. long, green; spathe about 6 in. long, pale green; stamens on the upper part of the spadix, cream-coloured, peltate; centre of spadix with a few scattered stamens; lower part of spadix female.

Commonly found in the low moist regions as an escape from cultivation, especially about Hanvella. Fls. Aug.–Sept.
A native of Tropical America.

### 10d. AGLAONEMA *Schott.*

A. OBLONGIFOLIUM Kunth. Enum. III, p. 55 (1841). *Calla oblongifolia* Roxb. Hort. Beng. p. 65 (1814); C. B. Rob. in Phil. Journ. Sc. Bot. VII, p. 419 (1912). *Aglaonema marantifolium* Blume Rumphia I, p. 153 (1835); Engl. in DC. Mon. Phan. II, p. 441 (1899).
Cultivated and escaped in the jungle at Kandy. Fl. June.
Native of the Malay Archipelago.

*Page* 360.—

### 11. **ALOCASIA** *Schott.*

| | |
|---|---|
| Lvs. cordate at base . . . . . . . | 1. A. CUCULLATA. |
| Lvs. sagittate at base : | |
| Lvs. distinctly peltate : | |
| Spathe 3–4 in. . . . . . . | *A. fornicata.* |
| Spathe 5–8 in. . . . . . . | *A. odora.* |
| Lvs. not peltate : | |
| Terminal lobe broader than long . . . | 2. A. MACRORRHIZA. |
| Terminal lobe longer than broad : | |
| Spathe 8–12 in. . . . . . . | *A. indica.* |
| Spathe 3½–4 in. . . . . . . | *A. alba.* |

A. INDICA Schott.
Petch in Ann. Perad. VII, p. 53 (1919), states that this is only known as a Ceylon species from a specimen in Thunberg's herbarium, which is *A. macrorrhiza,* and that the plant called Rata-ala or Desa-ala is a species of *Xanthosoma.*
*A. macrorrhiza* Schott. is stated to have peltate leaves in the Fl. Brit. Ind. (VI, p. 526) and Wight Ic. t. 797 is quoted; it seems to be *A. odora* in Engler's sense and is perhaps the plant shown in J.R.H.S. LII, f. 2–3 (1927), and in Rep. Miss. B. G. XI, p. 11.
The leaves of the Ceylon specimens are not peltate, and agree well with the *A. indica* of the Fl. Brit. Ind. (p. 525), as represented by

Wight Ic. t. 794. *A. macrorrhiza* in Engler's sense (Mon. Phan. p. 502) has not got peltate leaves. *A. macrorrhiza* is restricted to Ceylon by Haines (Bot. Bihar and Orissa p. 870) and the name *A. odora* applied to the Indian plant. Fl. Zeyl. no. 327 appears to be the type of *Arum macrorrhiza* Linn. and so the name is rightly applied, though *A. indica* may be a synonym. Bot. Reg. t. 641 has the spathe green within, while that of our plant is white within. I suspect that *A. indica* is the cultivated species with spotted petioles.

*Page* 361.—For *Raphidophora pertusa* Scholt. read:

1. **R. laciniata** Merr. in Phil. Journ. Sc. XIX, p. 342 (1921). *Polypodium laciniatum* Burm. f. Fl. Ind. p. 231 (1768). *Raphidophora pertusa* Schott. in Bonplandia V, p. 45 (1857).

This may be *R. Peepla* Schott.

*Page* 362.—For *Lasia aculeata* Lour. read:

**L. spinosa** Thw. Enum. p. 336 (1864). *Dracontium spinosum* Linn. Sp. Pl. p. 967 (1753). *Lasia aculeata* Lour. Fl. Cochinch. p. 81 (1790).

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14. **POTHOS** *Linn.*

Petiole broad, flat:
  Petiole shorter than the lamina; spadix obovoid or ellipsoid . . . . . . . 1. P. SCANDENS.
  Petiole $1\frac{1}{2}$–2 times as long as the lamina; spadix globose . . . . . . . 1a. P. ZEYLANICUS.
Petiole slender . . . . . . . . 2. P. REMOTIFLORUS.

1a. **P. zeylanicus** Engl. Araceæ in Engl. Pflanzenreich p. 24 (1905).

Internodes about $\frac{3}{4}$ in. long; petiole $1\frac{1}{2}$–2 times as long as and broader than the lamina, cuneate at the base, obtuse at apex, scarcely acuminate, $2\frac{1}{2}$–3 in. long, $\frac{2}{5}$ in. broad; lamina lanceolate, $\frac{3}{4}$–$1\frac{1}{2}$ in. long, $\frac{1}{5}$–$\frac{1}{4}$ in. broad; infl. about $\frac{3}{4}$ in. long; peduncle 4–5 times as long as the spadix; scale small, ovate; spathe ovate, $\frac{1}{6}$ in. long; stipe 3 times as long as the spadix; spadix globose, $\frac{1}{10}$ in. in diam.

Low country; rare. Kottava Forest, near Galle. Fl. April. Endemic.

PHILODENDRON *Schott.*

A species of this genus, known locally as *Pothos discolor* Hort, has escaped about Kandy; it rarely flowers.

SYNGONIUM *Schott.*

S. PODOPHYLLUM Schott. Syn. Ar. p. 68 (1856); Engl. in DC. Mon. Phan. II, p. 298 (1879).

This species occurs as an occasional escape about Kandy.

Native of Mexico.

*Page* 366.—For *Lemna* Linn. read:

Root solitary . . . . . . . . . . 1. Lemna.
Roots numerous . . . . . . . . . 1a. Spirodela.

## 1. LEMNA *Linn.*

Frond flat; ovule solitary . . . . . . 1. L. paucicostata.
Frond tumid beneath; ovule 52–7 . . . . 2. L. gibba.

2. **Lemna gibba** Linn. Sp. Pl. p. 970 (1753); Hegelm. Lemnac. p. 145 t. 11–13 (1868).

Root solitary; root-sheath cylindric, elongate; root-cap acute; frond opaque, orbicular or obovoid, tumid beneath; stamens 2; ovules 2–7; seeds erect, anatropous.

## 1a. SPIRODELA *Schleid.*

As *Lemna*, but with the daughter short of frond, bearing at its base a small lobe which is supposed to be a basal leaf, and several roots to each frond.—Sp. 2.

For *Lemna polyrrhiza* Linn. read:

**Spirodela polyrrhiza** Schleid. in Linn. XIII, p. 392 (1839); Hegelm. Lemnac. p. 151 (1868). *Lemna polyrrhiza* Linn. Sp. Pl. p. 970 (1753).

## 2. WOLFFIA *Heckel.*

Frond convex above . . . . . . . W. arrhiza.
Frond flat above . . . . . . . . W. microscopica.

W. microscopica Kurz. in Journ. Linn. Soc. IX, p. 265 (1867); Hegelm. Lemnac. p. 127 (1868); Petch in Ann. Perad. IX, p. 347 (1925). *Grantia microcopica* Griff. Ic. t. 260–268 (1847–52).

Pond near the Post Office and "well" near Ruanvella Dagoba, Anuradhapura (Petch). I have seen no specimens, and according to the Fl. Brit. Ind. (VI, p. 558) the plant is only known from Griffith's figure of a Bengal specimen.

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## 1. SCIAPHILA *Blume.*

Style shorter than the ov.:
  Stam. 6; stigma capitellate; fls. not secund, $\frac{1}{12}$ in. diam. . . . . . . . 1. S. erubescens.
  Stam. 3; stigma penicellate; fls. secund, $\frac{1}{6}$ in. diam. . . . . . . . . 2. S. secundiflora.
Style longer than the ov., simple:
  Fls. secund; pedicels up to $\frac{1}{4}$ in.; perianth segments 6 . . . . . . . . 2a. S. inornata.
  Fls. not secund; pedicels $\frac{1}{4}$–1 in; perianth segments 8 . . . . . . . . 3. S. janthina.

2a. **S. inornata** Petch ms. sp. nov.*

Stem 2½–4 in., simple, flexuous; sheathing scales few, distant; racemes ½–1½ in.; fl. secund, ⅕ in. broad; bracts ⅓–⅔ times as long as the stoutish pedicels; pedicels up to ¼ in.; perianth segments, rather longer than the carpels, head of ripe carpels ⅙ in. diam.

Shady forests of the montane zone; very rare. Hakgala. Fl. Feb. Endemic.

*Page* 372.—For *Aponogeton monostachyton* Linn. read:

1. **A. natans** Engl. & Krause Aponogetonaceæ in Engl. Pflanzenreich IV, 13, p. 11 (1906). *Saururus ?natans* Linn. Mant. II, p. 227 (1771). *Aponogeton monostachyon* Linn. f. Suppl. Pl. p. 214 (1781).

*Page* 373.—For *Potamogeton indicus* Roxb. read:

1. **P. Roxburghianus** Schult. f. in Mant. III, p. 367 (1827). *P. indicus* Roxb. Fl. Ind. I, p. 452 (1820) non Roth.

For *P. pectinatus* Linn. read:

2. **P. filiformis** Pers. Syn. I, p. 152 (1805). *P. pectinatus* Trim. Fl. Ceyl. IV, p. 374 (1898) non Linn.

C.P. 590 is referred to *P. fluitans* Roth. by Ascherson and Graebner in Engl. Pflanzenreich; they also attribute *P. pectinatus* Linn. and *P. perfoliatus* Linn. to Ceylon, erroneously. *Ruppia subsessilis* Thw. is referred to *R. rostellata* var. *brevirostris.*

*Page* 375.—For *Naias major* All. read:

1. **N. marina** Linn. Sp. Pl. p. 1015 (1753); Rendle Naiadaceæ in Engl. Pflanzenreich IV, 12 p. 7 (1901).

*Page* 376.—For *Cymodocea* Koenig read:

Anthers inserted at the same level . . . . 5. CYMODOCEA.
Anthers inserted at different levels . . . . 5a. DIPLANTHERA.

5a. **DIPLANTHERA** *Thou.*

As *Cymodocea* but leaves flat; anthers inserted at different levels.—Sp. 2.

For *Cymodocea australis* Trim. read:

**Diplanthera uninervis** Asch. in Engl. u. Prantl. Nat. Pfl. Nachtr. p. 37 (1897); Asch. & Graebn. Potamogetonaceæ in Engl. Pflanzenreich IV, II, p. 152 (1907). *Zostera uninervis* Forsk. Fl. Æg. Arab. p. 159 (1775). *Cymodocea australis* Trim. Syst. Cat. p. 99 (1885).

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* Affinis *S. erubescente* Miers, sed stylo longiore differt.—Typus: Hakgala, *Petch.*

VOLUME V

*Page* 1.—

**ERIOCAULON** *Linn.*

| | |
|---|---|
| Plants entirely submerged; leaves linear; heads up to ¼ in. diam.: | |
| Stem 1–3 ft., clothed throughout with leaves 1–3 in. long: | |
| Floral bracts hairy; heads grey or white; fem. petals equal . . | 1. E. CAPILLUS-NAIADIS. |
| Floral bracts glabrous; heads black; fem. petals unequal . | 2. E. INTERMEDIUM. |
| Stem under 3 ins.; leaves 8–10 in. . | 3. E. FLUVIATILE. |
| Plants of wet ground; stems under 1 ft.; leaves linear or lanceolate: | |
| Anthers white or yellow; plants minute . . . . . . | 4. E. CINEREUM. |
| Anthers black or greenish: | |
| Floral bracts acuminate: | |
| Heads ⅓ in.; floral bracts hidden by the petals . . . . | 5. E. LONGICUSPIS. |
| Heads ½ in.; floral bracts not hidden by the petals . . | 6. E. ROBUSTO-BROWNIANUM. |
| Floral bracts not acuminate: | |
| Floral bracts, or at least the outer ones, hidden by the projecting male petals: | |
| Heads ¼–½ in. diam.: | |
| Involucre black . . . | 7. E. ATRATUM. |
| Involucre stramineous: | |
| Leaves hairy . . . | *E. subcaulescens.* |
| Leaves glabrous: | |
| Leaves linear, abruptly dilated at base . . | 8. E. ZEYLANICUM. |
| Leaves lanceolate . | 9. E. SUBGLAUCUM. |
| Heads ½–1 in. diam.; stem 3–4 in. . . . . | 10. E. PHILIPPO-COBURGI. |
| Floral bracts not hidden by the petals which are usually enclosed: | |
| Heads with white or grey hairs; bracts dark: | |
| Heads over ½ in.; plant often hairy . . . | 11. E. BROWNIANUM. |
| Heads under ½ in.: | |
| Receptacle glabrous; involucral bracts horizontal; plants minute: | |
| Scapes 1–2 in.; heads ⅛ in. . . . . | 12. E. TRIMENI. |

Scapes 2–4 in.; heads $\frac{1}{4}$ in. . . . . 13. E. TRUNCATUM.
Receptacle villous:
Leaves not drying red:
Involucral bracts horizontal:
Leaves $\frac{1}{3}$ in. broad at base; fem. petals linear . 14. E. THWAITESII.
Leaves $\frac{1}{6}$ in. broad at base; fem. petals oblanceolate . . . *E. ligulæfolium.*
Involucral bracts reflexed:
Male petals all well developed, one largest:
Heads $\frac{1}{6}$ in. . *E. Sollyanum.*
Heads $\frac{1}{4}$–$\frac{1}{3}$ in.; transverse veins of the leaf prominent 15. E. COLLINUM.
Male petals all very small, transverse veins of the leaf obscure . . 16. E. WALKERI.
Leaves drying red . 17. E. QUINQUANGULARE.
Heads stramineous; bracts glabrous:
Flowers trimerous; bracts acuminate . . . 18. E. SEXANGULARE.
Flowers dimerous; bracts acute . . . . *E. longifolium.*

For *E. setaceum* Linn. read:

2. **E. intermedium** Körn. in Linnæa XXVII, p. 601 (1856); Ruhl. Eriocaulaceæ in Engl. Pflanzenreich IV, 30, p. 90 (1903); Fyson, in Ind. Journ. Bot. II, p. 20 t. 2 (1923). *E. setaceum* Hk. f. in Trim. Fl. Ceyl. V, p. 2 (1900) ?Linn.

*Page* 11.—

3. **E. fluviatile** Trim. in Journ. Bot. XXIII, p. 270 (1885); Ruhl. l. c. p. 115; Fyson l. c. p. 60 t. 49. ?*E. Barbeyanum* Ruhl. l. c. p. 73. Also in S. India.

*Page* 10.—For *E. Sieboldianum* Sieb. & Zucc. read:

4. **E. cinereum** R. Br. Prodr. p. 254 (1810); Benth. Fl. Austr. VII, p. 83 (1899). *E. Sieboldianum* Sieb. & Zucc. ex Steud. Syn. Cyp. II, p. 272 (1855); Ruhl. l. c. p. 111 fig. 15; Fyson l. c. p. 60 t. 50, 51.

*E. cristatum* Mart. is recorded as collected by Thwaites, by Ruhland p. 84, probably *E. zeylanicum* was intended.

E. SUBCAULESCENS Hk. f.; Ruhl. l. c. p. 83 has hairy leaves according

to Ruhl. l. c. p. 83. He cites: Nuvara Eliya, *Gardner,* Ramboda, *Gardner* 789.

*Page* 8.—For *E. Wightianum* Mart. read:

6. **E. robusto-Brownianum** Ruhl. l. c. p. 77 (1903); Fyson l. c. p. 40 t. 18 (1923). *E. Wightianum* Hk. f. in Trim. Fl. Ceyl. V, p. 8 (1900) pp. non Mart.

Moist region; rare. Dotalu-oya; Ambagamuva; S. of the Island. Fl. Sept., Feb.

Also in S. India.

9. **E. subglaucum** Ruhl. l. c. p. 68 (1903); Fyson l. c. p. 46. *E. atratum* Thw. Enum. p. 341 (1864) pp. non Körn. *E. zeylanicum* Hk. f. in Trim. Fl. Ceyl. V, p. 3 (1900) pp. non Körn. *E. zeylanicum* var. *subcaulescens* Fyson l. c. p. 46 t. 28 (1923).

Stem rather thick, up to 4 in., simple or branched, densely leafy; l. 1–2 in.; heads ⅓ in. diam., hemispherical, white; bracts obovate-oblong, stramineous, horizontal; receptacle densely villous; otherwise as *E. zeylanicum.*

Upper montane zone; rare. Pidurutalagala; Horton Plains. Endemic.

Doubtfully distinct from *E. zeylanicum.* Körn.

*Page* 3.—For *E. caulescens* Hk. f. & Th. read:

10. **E. Philippo-Coburgi** Szyszylowicz, Itin. Princ. S. Coburg II, p. 96 t. 12 (1888). *E. atratum* var. *major* Thw. Enum. p. 341 (1864) pp.; Ruhl. l. c. p. 69. *E. robustum* var. *caulescens* Fyson l. c. p. 48 t. 30.

Pidurutalagala (Princes of Saxe-Coburg-Gotha); Kunadiyaparavita.

*Page* 6.—

11. **E. Brownianum** Mart. in Wall. Pl. As. Rar. III, p. 25 (1832); Ruhl. l. c. p. 84; Fyson l. c. p. 38 t. 17.

Two forms of this species occur.

1. The typical form with pilose, usually narrow leaves.

Montane zone; common. Nuvara Eliya; Horton Plains; Knuckles; Dumbanugala Hill, Rangala.

2. A form with glabrous, usually broad leaves. *E. Wightianum* Hk. f. in Trim. Fl. Ceyl. V, p. 8 (1900) pp. non Mart.

Montane zone; rather rare; Adam's Peak; Ramboda; Wattekellie; Nuvara Eliya; Gartmore Estate, Maskeliya.

E. NILAGIRENSE Steud. Syn. Cyp. II, p. 271 (1855); Ruhl. l. c. p. 76. *E. Brownianum* Hk. f. in Fl. Brit. Ind. VI, p. 576 (1894) ?Mart. *E. Brownianum* var. *nilagirense* Fyson l. c. p. 38 fig. 39.

This given for Ceylon by Ruhland, who quotes Warburg 1131. It seems scarcely worth separating from *E. Brownianum* Mart.

E. NEESIANUM Körn. in Linnæa XXVII, p. 627 (1856); Ruhl. l. c. p. 105; Fyson l. c. p. 63.

This species was based on C.P. 790, but seems scarcely distinct from *E. Thwaitesii* Körn., though it is kept up by Ruhland.

E. LUZULÆFOLIUM Mart. in Wall. Pl. As. Rar. III, p. 28 (1832); Ruhl. l. c. p. 88; Fyson l. c. p. 27.
This species is given for Ceylon (Gardner) by Hooker in Trimen's Flora and by Ruhland, but Fyson states that "The Ceylon plant, C.P. 796, so named, has none of the characteristic truncate appearance of the head on a saucer-shaped involucre and is *E. collinum.*" This is true of C.P. 796, but some of the specimens under *E. collinum* Hk. f. have the truncate appearance of *E. luzulæfolium* Mart.

E. SOLLYANUM Royle Ill. p. 409 t. 976 f. 1 (1830). *E. trilobum* Ham. ex Körn in Linnæa XXVII, p. 645 (1856); Ruhl. l. c. p. 74; Fyson l. c. p. 74; Fyson l. c. p. 33 t. 10.
This species is given for Ceylon by Ruhland, who cites *Thwaites.* C.P. 796 and *Walker.*

13. **E. truncatum** Ham.
If this is *E. minimum* Lamk. it must take that name.

15. **E. collinum** Hk. f.
Hakgala; Nuvara Eliya; Dimbula; Maturata; Ambevela.
If this is *E. melaleucum* Mart. it should take that name.

16. **E. Walkeri** Hk. f.
This is considered to be a variety of *E. quinquangulare* by Fyson, l. c. p. 31, but he should have adopted *Thwaites's* name for it.

E. LONGIFOLIUM Nees ex Kunth Enum. II, p. 567 (1841); Ruhl. l. c. p. 110 f. 5. *E. sexangulare* var. *longifolium* Hk. f. in Fl. Brit. Ind. VI, p. 580 (1894). *E. sexangulare* Fyson l. c. p. 54 pp.
This species is given for Ceylon in the Fl. Brit. Ind. and by Ruhland; it is scarcely separable from *E. sexangulare* Linn.

*Page* 14.—For *Cyperus* L. read:

| | | |
|---|---|---|
| Nut trigonous or triquetrous; stigmas 3 or rarely 2 . | 1. | CYPERUS. |
| Nut laterally compressed; stigmas 2 . . . . | 1a. | PYCREUS. |
| Nut plane-convex, dorsally compressed; stigmas 2 . | 1b. | JUNCELLUS. |

*Page* 18.—For *Cyperus pygmæus* Rottb. read:

**Juncellus pygmæus** Clarke, in Fl. Brit. Ind. VI, p. 596 (1894). *Cyperus pygmæus* Rottb. Descr. et Ic. p. 20 t. 14 (1773).

*Page* 19.—For *Cyperus stramineus* Nees read:

**Pycreus stramineus** Clarke, in Fl. Brit. Ind. VI, p. 589 (1894). *Cyperus pygmæus* Nees in Wt. Contrib. p. 74 (1834).

For *Cyperus pumilus* L. read:

**Pycreus patens** (Vahl). *P. pulvinatus* Nees in Linnæa IX, p. 283 (1834). *Cyperus pumilus* Linn. Sp. Pl., ed. 2, p. 69 (1762). ?*C. nitens* Retz. Obs. V, p. 13 (1791). *C. patens* Vahl Enum. II, p. 334 (1806). *Pycreus pumilus* Domin, in Bibl. Bot. LXXXV, p. 417 (1916) non Nees.

For *Cyperus hyalinus* Vahl read:

**Pycreus hyalinus** Domin, in Bibl. Bot. LXXXV, p. 417 (1916); Turrill in Kew Bull. 1922, p. 124. *Cyperus hyalinus* Vahl Enum. p. 329 (1806).

**Part V.**

*Page* 20.—For *Cyperus sanguinolentus* Vahl read:

**Pycreus sanguinolentus** Nees in Linnæa IX, p. 283 (1834). ?*Cyperus Eragrostis* Vahl Enum. II, p. 322 (1806). *C. sanguinolentus* Vahl l. c. p. 351 (1806).

For *Cyperus polystachyus* Rottb. read:

Umbel contracted into a head . . . . . P. POLYSTACHYUS.
Umbel compound:
Spikelets $\frac{1}{4}$ in. long . . . . . . P. PANICULATUS.
Spikelets $\frac{1}{2}$ in. long . . . . . . P. FERRUGINEUS.

**Pycreus polystachyus** Beauv. Fl. Owar. II, p. 48 t. 86 (1807); Clarke in Fl. Brit. Ind. VI, p. 592 (1894); in Phil. Journ. Sc. Bot. II, p. 80 (1907). *Cyperus polystachyus* Hk. f. in Trim. Fl. Ceyl. V, p. 20 (1900) non Rottb. *Pycreus odoratus* Urb. Symb. Antill. II, p. 164 (1900) non *Cyperus odoratus* Linn.; Clarke in Phil. Journ. Sc. Bot. II, p. 84 (1907).

Low country; common.

The statement that stigmas are rarely 3 is incorrect as the specimen dissected was *Cyperus Zollingeri* Steud.

**Pycreus paniculatus** Nees in Linnæa IX, p. 283 (1834). *Cyperus paniculatus* Rottb. Descr. and Ic. p. 40 (1773). *C. polystachyus* var. ?*laxiflorus* Benth. Fl. Austr. VII, p. 261 (1878); Hk. f. in Trim. Fl. Ceyl. V, p. 21 (1900). *Pycreus polystachyus* var. *laxiflorus* Clarke in Fl. Brit. Ind. VI, p. 592 (1894).

As *P. polystachyus* but plant larger, umbels compound; spikelets much smaller, tinged with red or brown.

Low country; rare. Near Urugala.

All hot regions.

**Pycreus ferrugineus** Clarke in Fl. Brit. Ind. VI, p. 593 (1894). *Cyperus ferrugineus* Poir. in Lamk. Encycl. VII, p. 261 (1806). *C. polystachyus* Hk. f. in Trim. Fl. Ceyl. V, p. 20 (1900) pp. nec Rottb. nec R. Br.

As *P. paniculatus* but spikelets much larger, darker brown; glumes more distant.

Up to 5000 ft.; common. Fl. Dec.

Tropical Asia, Africa and America.

This is doubtfully distinct from *P. polystachyus*.

*Page* 21.—For *Cyperus puncticulatus* Vahl read:

**Pycreus puncticulatus** Nees in Mart. Fl. Bras. II, 1, p. 10 (1833); in Linnæa IX, p. 283 (1834). *Cyperus puncticulatus* Vahl Enum. II, p. 348 (1806). *P. Baccha* Nees in Linnæa IX, p. 283 (1834).

Dambulla.

For *Cyperus globosus* Allioni read:

**Pycreus strictus** (Lamk.). *Pycreus globosus* Rchb. Fl. Germ. p. 140 (1830–2). *Cyperus globosus* All. Fl. Pedem. I, p. 49 (1785) non Forsk. *C. striatus* Lamk. Ill. I, p. 146 (1791).

*Page* 26.—For *Cyperus cuspidatus* H. B. K. read:

**C. uncinatus** Poir. in Lamk. Encycl. VII, p. 247 (1806). *C. cuspidatus* H. B. K. Nov. Gen. & Sp. I, p. 204 (1815).

*Page* 33.—

**C. tuberosus** Rottb. **Kathi Korai,** *T.*
Dry region; common.
This is considered to be a variety of *C. rotundus* Linn. by Kükenthal (in Notizbl. Bot. Gard. Berlin IX, p. 305, 1925), who should have adopted Clarke's name *procerula,* but Sedgwick (in Journ. Bomb. N.H.S. XXV, p. 696, 1918) mentions "differences of habit noticeable in the field."

*Page* 38.—For *C. alopecuroides* Rottb. read:

**Juncellus alopecuroides** Clarke in Fl. Brit. Ind. VI, p. 595 (1894). *Cyperus alopecuroides* Rottb. Descr. & Ic. p. 38 t. 8 (1773).

*Page* 39.—

2. **MARISCUS** *Vahl.*

Add to the key after:

Leaves $\frac{1}{6}$–$\frac{1}{4}$ in. broad:
 Spikelets 2-flowered, brownish-green, not spreading at right angles; nuts chestnut . . . . . . . 5. M. CYPERINUS.
 Spikelets 1-flowered; spikelets spreading at right angles:
  Spikelets dense:
   Nut black; glumes creamy-yellow . 4. M. PANICEUS.
   Nut yellow:
    Glumes golden-yellow . . . 8. M. ROXBURGHIANUS.
    Glumes white with green midribs . 9. M. PICTUS.
  Spikelets loosely arranged; nut brown; glumes light green . . . . 6. M. SIEBERIANUS.
Leaves linear; spikelets 2-flowered, bright green, not spreading at right angles . 7. M. TENUIFOLIUS.

For *Mariscus albescens* Gaud. read:

2. **M. stuppeus** Merr. in Phil. Journ. Sc. Bot. III, p. 398 (1909). *Cyperus stuppeus* Forst. f. Prodr. p. 89 (1786). *Mariscus albescens* Gaud. in Freyc. Voy. Bot. p. 415 (1826). *Cyperus pennatus* Lamk. Tabl. Encycl. I, p. 144 (1791).

M. THWAITESII Livera in Ann. Perad. XI (1928) is a species of *Cyperus.*

For *M. microcephalus* Presl. read:

3. **M. compactus** Druce in Rep. Bot. Exch. Cl. 1916, p. 634 (1917); Haines Bot. Bihar and Orissa p. 910 (1924). *Cyperus compactus* Retz. Obs. V, p. 10 (1791) non Lamk. *C. congestus* Poir. Encycl. VII, p. 239 (1804) non *Mariscus congestus* Clarke. *Cyperus dilutus* Vahl Enum. II, p. 357 (1806). *Mariscus microcephalus* Presl, Rel. Haenk. p. 182 (1830). *M. dilutus* Nees in Wight Contrib. p. 90

(1834). *Sphæromariscus microcephalus* Camus in Not. Syst. I, p. 239 (1912).

4. **M. paniceus** Vahl.

Glumes cream coloured.

Clarke (in Fl. Brit. Ind.) states, apparently correctly, that the nut is black.

Rottboell's figure is quite good for our plant; his type was collected in Malabar by Koenig.

*Page* 40.—

Willis's supposed new *Cyperus* from Ritigala was perhaps *M. cyperinus*.

6. **M. Sieberianus** Nees. *M. cyperinus* Domin in Bibl. Bot. LXXXV, p. 437 (1915).

Hooker's statement that the spikelets are "almost golden-yellow" probably refers to Clarke's variety *evolutior*. They were bright green in my specimen.

*M. biglumis* Gaertn. is an earlier name and should be adopted if really this species.

7. **M. tenuifolius** Schrad.

Glumes bright green.

*Page* 41.—For *M. paniceus* var. *Roxburghiana* Clarke read:

8. **M. Roxburghianus** (Clarke). *M. paniceus* var. *Roxburghianus* Clarke in Fl. Brit. Ind. VI, p. 621 (1894). *Scirpus echinatus* Linn. Sp. Pl. p. 50 (1753) non *M. echinatus* Ell.

Spikelets golden-yellow, 1-fld.; nut yellow.

Low country; common.

Also in India.

9. **M. pictus** Nees in Wight Contrib. p. 90 (1834) pp.; Clarke in Fl. Brit. Ind. VI, p. 621 (1894).

As *M. paniceus* but larger; glumes white with green midribs; nuts yellow.

Low moist country; common.

Also in S. India.

I suspect that the names of this and the last species should be reversed.

*Page* 53.—For *Fimbristylis diphylla* Vahl read:

11. **F. annua** R. & S. Syst. II, p. 95 (1817). *Scirpus annus* All. Fl. Pedem. II, 277 (1785). *F. diphylla* Vahl Enum. II, p. 289 (1806).

*Page* 58.—For *F. asperrima* Boeck read:

19. **F. dura** (Moritzi). *Isolepis dura* Moritzi Verz. Zoll. Pl. p. 97 (1845). *Fimbristylis asperrima* Boeck. in Linnæa XXXVII, p. 40 (1871).

For *F. tristachya* Thw. read:

20. **F. triflora** K. Sch. ex Engl. in Abh. Preuss. Akad. Wiss. p. 14 (1894). *Cyperus triflorus* Linn. in Mant. II, p. 180 (1771). *F. tristachya* Thw. Enum. p. 434 (1864) non R. Br.

*Page* 64.—For *F. junciformis* Kunth read:

29. **F. falcata** Kunth Enum. II, p. 239 (1837). *Scirpus falcatus* Vahl Enum. II, p. 375 (1806). *Fimbristylis junciformis* Kunth l. c p. 239.

*Page* 66.—For *Bulbostylis* Kunth read:

6. **STENOPHYLLUS** *Raf.*

For *Bulbostylis pubescens* Kunth read:

1. **Stenophyllus puberulus** (Poir.). *Scirpus puberulus* Poir. Encycl. VI, p. 767 (1804). *Bulbostylis puberula* Kunth, Enum. II, p. 213 (1837).

For *Bulbostylis barbata* Kunth read:

2. **Stenophyllus barbatus** Cooke Fl. Bomb. II, p. 887 (1908) (*barbata*). *Scirpus barbatus* Rottb. Descr. & Ic. p. 52 t. 17 f. 4 (1773). *Bulbostylis barbata* Kunth Enum. II, p. 208 (1837).

For *Bulbostylis capillaris* Kunth read:

3. **Stenophyllus capillaris** Britt. in Bull. Torr. Cl. XXI, p. 30 (1894). *Scirpus capillaris* Linn. Sp. Pl. p. 49 (1753) pp. *Bulbostylis capillaris* Kunth Enum. II, p. 212 (1837).

*Page* 68.—For *Eleocharis plantaginea* R. Br. read:

1. **E. dulcis** Trin. ex Hensch. Vita Rumph. p. 186 (1853). *E. plantaginoidea* W. F. Wight in Contr. U.S. Nat. Herb. IX, p. 267 (1905). *Scirpus plantaginoides* Rottb. Descr. & Ic. p. 45 t. 16 (1773). *S. plantagineus* Retz. Obs. V, p. 14 (1789) sphalm. *Eleocharis plantagineus* R. Br. Prodr. p. 224 (1810). *Andropogon dulcis* Burm. f. Fl. Ind. p. 219 (1768).

*Page* 71.—For *E. Chætaria* Roem. & Schultes read:

6. **E. setacea** R. Br. Prodr. p. 224 (1810). *Cyperus setaceus* Retz. Obs. V, p. 10 (1789). *Eleocharis Chætaria* R. & S. Syst. II, p. 154 (1817). *Scirpus pygmæa* Lamk. Ill. I, p. 139 (1791).

*Page* 72.—For *E. capitata* R. Br. read:

7. **E. caribæa** Blake in Rhodora XX, p. 24 (1918). *Scirpus caribæa* Rottb. Descr. Nov. Fl. p. 46 (1773). *Eleocharis capitata* R. Br. Prodr. p. 225 (1810) excl. syn. *Scirpus capitatus* Moon Cat. p. 6 (1824) non Linn.

*Page* 78.—For *Websteria* S. H. Wright read:

9. **DULICHIUM** *Pers.*

For *Websteria limnophila* S. H. Wright read:

**Dulichium confervoideum** (Poir.). *Scirpus confervoides* Poir. Encycl. VI, p. 755 (1804). *Websteria limnophila* S. H. Wright in Bull. Torr. Bot. Club. XIV, p. 135 (1887). *Dulichium sp.* Pax in Engl. u. Prantl. Nat. Pfl., Nachtr. I, p. 48 (1897). ?*D. arundinaceum* Britt. in Bull. Torr. Bot. Cl. XXI, p. 29 (1894).

*Page* 79.—For *Fuirena glomerata* Lamk. read:

1. **F. ciliaris** Roxb. Hort. Beng. p. 81 (1814); Fl. Ind. I, p. 180 (1820). *Scirpus ciliaris* Linn. Mant. II, p. 182 (1771). *Fuirena glomerata* Lamk. Ill. I, p. 150 (1791). **Helkahambiliya,** *S.*

*Page* 81.—For *Lipocarpha triceps* Nees read:

2. **L. gracilis** Nees in Linnæa IX, p. 287 (1834). *Hypolytrum sphacelatum* Vahl Enum. II, p. 283 (1806). *Lipocarpha triceps* Nees in Wight Contr. p. 92 (1834). *L. sphacelata* Kunth Enum. II, p. 267 (1837).

*Page* 83.—For *Rhynchospora Wallichiana* Kunth read:

1. **R. rubra** Makino, in Tokyo, Bot. Mag. XVII, p. 180 (1903). *Schœnus ruber* Lour. Fl. Cochinch., ed. Willd., p. 52 (1793). *Rhynchospora Wallichiana* Kunth Enum. II, p. 289 (1837).

For *R. aurea* Vahl read:

2. **R. corymbosa** Britt. in Trans. N.Y. Acad. Sc. XI, p. 86 (1892). *Scirpus corymbosus* Linn. Amœn. Acad. IV, p. 303 (1759). *Rhynchospora aurea* Vahl Enum. II, p. 229 (1806).

*Page* 88.—For *Lepironia mucronata* Rich. read:

**L. articulata** Domin. in Bibl. Bot. LXXXV, p. 486 (1915). *Restio articulatus* Retz. Obs. IV, p. 14 (1786). *Lepironia mucronata* Rich. in Pers. Syn. I, p. 70 (1805). *Lepironia conifera* Druce, in Rep. Bot. Excl. Cl. 1916, p. 631 (1917). *Scirpus coniferus* Poir. Encycl. VI, p. 756 (1804).

*Page* 92.—For *Scirpodendron costatum* Kurz read:

**S. Ghaeri** Merr. in Phil. Journ. Sc. Bot. IX, p. 268 (1904). *Chionanthus Ghaeri* Gaertn. Fruct. I, p. 190 (1788). *Scirpodendron costatum* Kurz, in Journ. As. Soc. Beng. XXXVIII, p. 85 (1869).

*Page* 96.—

5. **S. lithosperma** Sw. var. **Roxburghii** Clarke.
Nilgala; Ritigala; Ganoruva; Siyambilagastenna, near Urugala.

*Page* 97.—For *S. elata* Thw. read:

8. **S. cochinchinensis** Druce, in Rep. Bot. Exch. Cl. 1916, p. 646 (1917). *Diaphora cochinchinensis* Lour. Fl. Cochinch. p. 709 (1790). *Scleria elata* Thw. Enum. p. 353 (1864) pp.

9. **S. chinensis** Kunth.
Upper montane zone; rather common. Nuvara Eliya; Hakgala; Naminakuli.
Scarcely distinct from *S. cochinchinensis.*

*Page* 106.—

9. **Carex spicigera** var. **rubella** Clarke.
Hakgala.
*C. rubella* Boott is probably a good species.

*Page* 111.—For *C. ligulata* Nees read:

18. **C. hebecarpa** C. A. Mey in Mem. Acad. Petersb. I, p. 223 (1831); Willis Cat. no. 2565 (1911). *C. ligulata* Nees in Wight Contr. p. 127 (1834).

*Page* 112.—For *C. Jackiana* Boott read:

Culms. central; leaves broad; utricles fusiform, greenish brown, glabrous . . . . . . 19. C. JACKIANA.
Culms. lateral; leaves narrower; urticles rhomboid, pubescent . . . . . . . 19a. C. LATERALIS.

19a. **C. lateralis** Kukenth. Cyperaceæ in Engl. Pflanzenreich IV, p. 639 (1909). *C. Jackiana* var. *minor* Hk. f. in Trim. Fl. Ceyl. V, p. 113 (1900) ?Clarke.

Root fibres slender; stems lateral, 6–9 in., tufted; l. very much longer than the stems, very narrow, $\frac{1}{10}$–$\frac{1}{6}$ in. broad, scabrous above; leaf-sheaths dark brown; "spikelets" 1–2, on filiform peduncles; bracts foliaceous; fem. glumes oblong-ovate, subobtuse, brownish, 3-veined utricle rhomboid, pubescent; nut oblong-ovate; stigmas 3.

Upper montane zone; rare?
Endemic?

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## CXLIX.—GRAMINEÆ.

*Page* 116.—Add to key:

Tribe I, **Paniceæ.**
Spikelets persistent on their pedicels or deciduous with them:
Spikelets in involucelled deciduous fascicles:
Involucel of bristles . . . . . . 10. PENNISETUM.
Involucel of spines connate at the base . 10a. *Cenchrus.*
Spikelets solitary on a flattened rachis:

*Page* 119.—And:

Series II, **Poaceæ.**
Tribe VIIIa, **Phalarideæ.**—Spikelets with a terminal perfect fl., and one or more imperfect male or neuter below it; rachilla not produced beyond the perfect fl.
Panicle spiciform; stam. 2 . . . . 42a. *Anthoxanthum.*

And:

Tribe IX, **Agrostideæ.**
Pericarp of grain loose; fls. all awnless; gl. 1-nerved . . . . . . . . . 47. SPOROBOLUS.
Pericarp of grain adherent to the seed; gl. III awned or not, 3–5-veined:
Callus of gl. III naked . . . . . 47a. *Agrostis.*
Callus of gl. III villous . . . . 48. CALAMAGROSTIS.

**Part V.**

And:

Subtribe 1, EUAVENEÆ.
Flowers all perfect or the upper imperfect:
Fls. 2, upper imperfect . . . . . 48a. *Holcus*.
Fls. 3–4 . . . . . . . . 49. AVENA.
Fls. 2, upper hermaphrodite, lower male . 49a. *Arrhenatherum*.

*Page* 120.—And:

Subtribe 6, EUFESTUCEÆ.
Spikelets many-fld.:
Spikelets shortly spicate . . . . . 73. ÆLUROPUS.
Spikelets panicled:
Spikelets lanceolate:
Tip of ovary glabrous . . . . 73a. *Festuca*.
Tip of ovary villous . . . . 73b. *Bromus*.
Spikelets ovate . . . . . . 73c. *Briza*.
Spikelets spicate . . . . . . 75. BRACHYPODIUM.
Spikelets few-fld.:
Spikelets in close secund clusters . . . 75a. *Dactylis*.
Spikelets panicled . . . . . . 14. POA.

*Page* 121.—For *Paspalum* Linn. read:

Back of fruit abaxial:
Gl. IV crustaceous in fruit; palea of gl. III not attached to fruit . . . . . . 1. PASPALUM.
Gl. IV thinly cartilaginous in fruit; palea of III attached at base . . . . . . 1a. DIGITARIA.
Back of fruit adaxial . . . . . . . 1b. *Axonopus*.

## 1. **PASPALUM** *Linn.*

Spikelets glabrous, subsessile:
Spikelets in two rows:
Plant creeping, rooting at nodes; spikelets acute, elliptic, biseriate; racemes paired, 1 in. long; styles purple . 1. P. VAGINATUM.
Plants tufted; spikelets obtuse, suborbicular:
Styles white; racemes usually paired; infl. shortly pedunculate:
Plant prostrate; spikelets under 0·1 in. long; racemes 1¼–2 in. long . 2. P. METZII.
Plant erect; spikelets over 0·1 in. long; racemes 2–2½ in. long . . 3. P. SCROBICULATUM.
Styles dark purple, racemes usually 3–4; infl. long pedunculate . . 4. P. COMMERSONII.
Spikelets in three or four rows; racemes numerous, with a tuft of white hairs in their axils; plant erect; styles dark purple 5. P. LONGIFOLIUM.
Spikelets pubescent, stalked; suborbicular:
Plant creeping, rooting at nodes; spikelets biseriate; styles white . . . . 6. P. CONJUGATUM.

Plants tufted; spikelets in more than two rows; styles dark purple:
  Plant prostrate; spikelets 0·15 in. long; racemes 5–7 . . . . . . 7. *P. dilitatum.*
  Plant erect; spikelets 0·1 in. long; racemes 9–17 . . . . . . 8. *P. Larranagai.*

1. **P. vaginatum** Sw. Prodr. p. 21 (1785); Hitchc. in Contr. U.S. Nat. Herb. XVIII, p. 307 (1917). *P. distichum* Hk. f. in Fl. Brit. Ind. VIII, p. 12 (1897) pp. non Linn.

Perennial; stems prostrate, creeping, rooting at the nodes, leaves bifarious, 1–3 in. long, $\frac{1}{10}$ in. broad, rounded at base, acuminate at apex, margins smooth; midrib rather broad; sheath $\frac{1}{2}$–1 in. long, mouth hairy; spikes 2, shortly stalked, opposite, spreading; rachis narrow, glabrous; spikelets $\frac{1}{10}$ in. long, elliptic-lanceolate, acute, biconvex, sessile, glabrous; glumes 3, I and II equal and similar, membranous, acute; stigmas purple.

On tidal mud; rather common. Talaimannar; Negombo. Fls. April, Aug.

Tropics generally.

Breakwell, Grasses and Fodder Plants of N.S.W. p. 44, states that "Water Couch is known in America as Eternity grass, Knot grass, or Joint grass, and there credited with being a particularly valuable fodder plant. . . . Dairymen on the Hunter, Manning and Macleay Rivers are quite content to devote whole paddocks to it during the summer and autumn months rather than lay down *Paspalum dilitatum.* It will stand a good deal of feeding off, and must be considered an excellent grass for fattening and producing milk."

2. **P. Metzii** Steud. Syn. p. 21 (1854). *P. scrobiculatum* Hk. f. in Fl. Brit. Ind. VII, p. 10 (1897) pp. non Linn. ?*P. coromandelianum* Lamk. Ill. I, p. 175 (1791).

Perennial; stems tufted or creeping, prostrate, sometimes rooting at the lower nodes; leaves $1\frac{1}{2}$–5 in. long, up to 0·2 in. broad; margins scaberulous, midrib rather broad; sheath 1–$2\frac{1}{2}$ in. long; spikes 1–4, usually 2, subsessile, alternate, ascending; rachis 0·05 in. broad, glabrous; spikelets under $\frac{1}{10}$ in. long, sub-orbicular, sessile, glabrous; glumes 3, I and II equal and similar, membranous; gl. III coriaceous, polished; stigmas white; anthers pale yellow.

In wet places; common. Peradeniya; Gampola; Anuradhapura; Tissa-maha-rama; Akimena, Galle; Hunasgiriya; Morakande, Galagedera. Fls. Oct.

Also in India?

This appears to be the wild form of *P. scrobiculatum* rather than *P. Commersonii.* The author is indebted to Dr. A. S. Hitchcock of Washington for the identification of this species.

3. P. SCROBICULATUM Linn.

This is here restricted to the cultivated plant.

For *P. scrobiculatum* Linn. read:

4. **P. Commersonii** Lamk. Ill. I, p. 175 (1791). *P. scrobiculatum* Hk. f. in Trim. Fl. Ceyl. V, p. 121 (1900) non Linn.

5. **P. longifolium** Roxb. Hort. Beng. p. 280 (1814); Trin. Sp. Gram. Ic. p. 138 (1828). *P. scrobiculatum* Hk. f. in Trim. Fl. Ceyl. V, p. 121 (1900) var.

Perennial, about 3 ft. high; stems erect; leaves 6–12 in. long, 0·3 in. broad, narrower than their sheaths, margin scaberulous, inrolled; sheaths about 6 in. long; spikes about 6, subsessile, alternate; rachis nearly $\frac{1}{20}$ in. broad, glabrous; spikelets under $\frac{1}{10}$ in. long, suborbicular, glabrous; anthers dirty yellow; stigmas purple.

Moist region, rather rare. Colombo; Deltota; Galagama. Fls. May, July, Sept.–Nov.
Also in India and Malaya.

6. P. CONJUGATUM Berg.
An American species now wild in Ceylon.

7. P. DILITATUM Poir. in Lamk. Encycl. V, p. 35 (1804).
A native of Brazil, much cultivated as a fodder grass under the name "Prostrate Paspalum"; it is also called "Dallis grass" in other countries.

8. P. LARRANAGAI Arech.
Upright Paspalum or Vasey grass.

## 1a. DIGITARIA *Haller* (non Heister).
(*Syntherisma* Walt).

Annual or perennial grasses; spikelets abaxial, awnless, lanceolate or ovate-elliptic, in slender spiciform racemes, 4; gl. I, if present, hyaline, minute; gl. II membranous; gl. III 5–7 veined; gl. IV more or less chartaceous, usually 3-veined; palea 2-nerved; stam. 3; styles 2, free; stigmas plumose, exserted near the top of the floret; grain oblong, slightly compressed dorsally, free but tightly compressed between the hardened glume and the palea.—Sp. 100; cosmopolitan.

*Page* 123.—For *Paspalum sanguinale* read:

1. **Disitaria marginata** Link. Hort. I, p. 229 (1827). *Paspalum sanguinale* var. *commutatum* Hk. f. in Fl. Brit. Ind. VII, p. 15 (1897). *P. sanguinale* Hk. f. in Trim. Fl. Ceyl. V, p. 123 (1900) pp. non Lamk. *Syntherisima marginatum* Nash in North Ann. Fl. XVII, p. 184 (1912).

*P. sanguinale* Hk. f. may also include *D. horizontalis* Willd. (*Syntherisma digitata* Hitchc.), *D. pruriens* Buse and *D. rhopalotricha* Buse.

*Page* 124.—For *Paspalum longiflorum* read:

2. **Digitaria longiflora** Pers. Syn. I, p. 85 (1805). *Paspalum longiflorum* Koenig, in Retz. Obs. IV, p. 15 (1786).

*Page* 125.—For *Paspalum Royleanum* read:

3. **Digitaria puberula** Link. Enum. Hort. Berol. I, p. 223 (1827). *D. Royleana* Prain Bengal Pl. p. 1182 (1903). *Paspalum Royleanum* Nees ex Thw. Enum. p. 358 (1864). *P. isochnocaulon* Ind. Kew. II, p. 431 (1894) non Trin. *Panicum puberulum* Kunth Rev. I, p. 32 (1829).

For *Paspalum Perrottetii* read:

4. **Digitaria Wallichiana** Stapf in Fl. Trop. Afr. p. 436 (1917). *Panicum Wallichianum* Steud. p. 41 (1854). *P. Perrottetii* Hk. f. in Trim. Fl. Ceyl. V, p. 125 (1900) non Kunth.

1b. AXONOPUS *Beauv.*

Perennial grasses; spikes 2 or more; spikelets awnless; spikelets lanceolate, alternate; gl. I wanting; gl. II membranous, faintly 4–5 veined; gl. III similar, veins finer; gls. IV chartaceous to crustaceous, margins firm; palea similar to gl. IV; stam. 3; styles 2, free, stigmas exserted from near the top of the spikelet; grain elliptic, dorsally compressed, tightly enclosed within the slightly hardened glume and palea.—Sp. about 35; natives of Tropical America.

A. COMPRESSUS Beauv. Agrost. p. 154 (1812); Chase in Proc. Biol. Soc. Wash. XXIV, p. 129 (1911). *Milium compressum* Sw. Prodr. p. 24 (1787).

A glabrous, bright green, creeping or tufted perennial; leaf-blades 1–10 in. long, about $\frac{1}{3}$ in. broad, margin minutely hairy; sheaths $\frac{1}{2}$–3 in. long, hairy at base; culms 2 from each axil, 3–18 in. high, very slender; racemes 2, or rarely 3, $1\frac{1}{4}$–$3\frac{1}{2}$ in. long; spikelets elliptic-lanceolate, glabrous; styles pale mauve.

Low country, in both moist and dry regions; common in open places. Fls. Nov., Jan.–Feb., May.

A native of Tropical America, where it is called carpet grass.

*Page* 126.—For *Eriochloa polystachya* H. B. K. read:

**E. ramosa** O. Ktze. Rev. Gen. II, p. 775 (1891). *Milum ramosum* Retz. Obs. VI, p. 22 (1791). *Eriochloa annulata* Kunth Enum. I, p. 30 (1833). *E. polystachya* Hk. f. in Trim. Fl. Ceyl. V, p. 126 (1900) non H. B. K.

*Page* 127.—

1. **Isachne Kunthiana** W. & A.
Montane zone; common.

For *I. elatior* Hk. f. read:

**I. Kunthiana** var. **elatior** (Hk. f.). *I. elatior* Hk. f. in Fl. Brit. Ind. VII, p. 22 (1896).

Craig, Bandaravella (Jowitt.); Horton Plains (Jowitt.); Hakgala (Willis).

**Part V.**

*Page* 130.—For *Panicum* Linn. read:

Glume I adaxial:
  Spikelets unarmed . . . . . . 4. BRACHIARIA.
  Spikelets armed with hooked bristles . 4a. PSEUDECHINOLÆNA.
Glume I abaxial:
  Glumes awnless:
    Glume II, inflated-saccate; fruit stipulate 4b. SACCIOLEPIS.
    Glume II not inflated-saccate; fruit not stipulate:
      Inflorescence a spiciform panicle . . 4c. HYMENACHNE.
      Inflorescence an open or contracted panicle, or of secund spikes:
        Glume I not crested at apex:
          Glume I shorter than glume II:
            Inflorescence an open or contracted panicle:
              Spikelets not gibbous . . 4d. PANICUM.
              Spikelets gibbous . . . 4e. CYRTOCOCCUM.
            Inflorescence of secund spikes:
              Glume IV acute, not mucronate in fruit . . . . 4f. PASPALIDIUM.
              Glume IV obtuse, mucronate in fruit . . . . . 4g. UROCHLOA.
          Glumes I and II subequal . . 4h. HEMIGYMNIA.
        Glume I crested at apex . . . 4i. ACROCERAS.
  Glumes awned or cuspidate:
    Spikelets not silky . . . . . 4j. ECHINOCHLOA.
    Spikelets silky . . . . . . 4k. *Rhynchelytrum.*

## 4. **BRACHIARIA** *Griseb.*

Annual or perennial grasses; blades narrow; ligule small; infl. various; spikelets ovate, lanceolate or obovate, adaxial; gl. I usually small, directed towards the axis; gls. II & III 5–7 veined, subequal; gl. IV crustaceous with involute margins; stam. 3; styles 2, free, blackish-purple (in all species examined); grain tightly enclosed.—Sp. about 80; Tropics generally.

The genus *Brachiaria* was founded by Grisebach, in Ledebour's Fl. Ross. IV, p. 469 (1853), with *B. erucæformis* Griseb. as the type, but the chief difference from *Panicum,* namely the reversed spikelets, was not pointed out till 1903 by Nash, in Small. Fl. S.E.U.S. p. 50 (1903).

Rachis of spikes broad, flattened . . . 1. B. ERUCÆFORMIS.
Rachis of spikes narrow, filiform:
  Nodes densely bearded . . . . 1a. *B. mutica.*
  Nodes naked or puberulous:
    Spikelets glabrous:
      Leaves bright green:
        Spikelets obovoid:
          Spikelets distant . . . . 2. B. SEMIVERTICILLATA.
          Spikelets imbricate . . . 3. B. DISTACHYA.
        Spikelets lanceolate, imbricate . 4. B. MILIIFORMIS.

Leaves glabrous; spikelets distant . 5. B. REMOTA.
Spikelets puberulous:
Glume I 5-veined . . . . 6. B. RAMOSA.
Glume I 1-veined . . . . 7. B. SEMIUNDULATA.

*Page* 133.—For *Panicum Isachne* Roth. read:

1. **Brachiaria erucæformis** Griseb. in Ledeb. Fl. Ross. IV, p. 469 (1853). *Panicum erucæformis* J. Sm. in Sibth. Fl. Græc. I, p. 44 t. 59 (1806). *P. Isachne* Roem. & Schultes Syst. II, p. 458 (1817). *Brachiaria Isachne* Stapf in Fl. Trop. Afr. IX, p. 552 (1917).

*Page* 140.—For *Panicum muticum* Forsk. read:

1a. BRACHIARIA MUTICA Stapf in Fl. Trop. Afr. IX, p. 526 (1917). *Panicum muticum* Forsk. Fl. Æg. Arlb. p. 26 (1775). **Tanni-pillu,** *T.*

*Page* 143.—For *Panicum semiverticillatum* Roth. read:

2. **Brachiaria semiverticillata** (Roth.). *Panicum semiverticillatum* Rottl. in Ainslie. Nat. Med. I, p. 219 (1813). *Panicum firmiculme* Mez. in Notizbl. Berl. VII, p. 63 (1917). **Koodrawalie chamney,** *T.* (Rottler).
Dry country; rather rare. Trincomalee; Tissa-maha-rama.

*Page* 142.—For *Panicum distachyon* Linn. read:

3. **Brachiaria distachya** Stapf in Fl. Trop. Afr. IX, p. 565 (1917); A. Camus in Fl. Gen. Indo-Chine VII, p. 437 (1922). *Panicum distachyum* Linn. Mant. I, p. 138 (1767).

4. **Brachiaria miliiformis** Chase, in Contr. U.S. Nat. Herb. XXII, p. 35 (1920) pp. non *Panicum miliiformis* Presl.

Stems up to 3 ft., prostrate and rooting at the nodes below, branched, internodes 1½–4 in. long, bearded; l. 1½–7 in. by 0·2–0·4 in., ovate-lanceolate with a broad subcordate base, acuminate, midrib rather thin, veins about 5 pairs; margins scaberulous; sheath ciliate on the margin, 1–1½ in. long; panicle erect, shortly peduncled, of 5–10 secund spikes; rachis of spikes angular, villous at the base of the spikelets; spikelets 0·1 in. long, sessile, biseriate, glabrous; gl. I short, adaxial, over one-third as long as gl. III, acuminate, ovate-orbicular; II and III subequal, ovate-lanceolate; gl. IV, coriaceous; styles blackish-purple.

Low country in damp places; rather common. Ganoruva; Haragama; Getembe; Panvila. Fls. Apr., Oct.–Nov.
Also in the Philippines and Guam.

*Page* 144.—For *Panicum remotum* Retz. read:

5. **Brachiaria remota** Haines, Bot. Bih. and Or. p. 1005 (1924). *Panicum remotum* Retz. Obs. IV, p. 17 (1780).
Dry country, in dense shade; rather common. Negombo; Kanteiai.

*Page* 140.—For *Panicum ramosun* Linn. read:

6. **Brachiaria ramosa** Stapf in Fl. Trop. Afr. IX, p. 542 (1917). *Panicum ramosum* Linn. Mant. I, p. 29 (1771).
Hettimulla.

*Page* 139.—For *Panicum villosum* Lamk. read:

7. **Brachiaria semiundulata** Stapf l. c. p. 556. *Panicum semiundulatum* Hochst. in Flora (1841) nomen; A. Rich. Tent. Fl. Abyss. II, p. 364 (1851). ?*P. villosum* Lamk. Ill. I, p. 173 (1791). *P. coccospermum* Thw. Enum., p. 359 (1864) non Steud.

### 4a. PSEUDECHINOLÆNA *Stapf.*

Annual or perennial, narrow-leaved grasses; ligule membranous; spikelets large, ovoid, gibbous; gl. I, larger than gl. III, lanceolate, 3-veined; gl. II, gibbous, obscurely veined, naked or furnished with hook-tipped bristles; gl. III equalling gl. II, orbicular-ovate; gl. IV shorter than gl. III, smooth, coriaceous; pedicels wanting; stam. 2; grain oblong, small.—Sp. 1; throughout the Tropics.

Stapf in Fl. Trop. Afr. IX, 495, states that there are 2 lodicules, I have not dissected a spikelet to find out if this is correct.

*Page* 160.—For *Panicum uncinatum* Raddi read:

**Pseudechinolæna polystachya** Stapf in Fl. Trop. Afr. IX, p. 495 (1917). *Echinolæna polystachya* H. B. K. Nov. Gen. and Sp. I, p. 119 t. 679 (1815). *Panicum uncinatum* Raddi, Agrost. Bras. p. 41 (1823).

### 4b. SACCIOLEPIS *Nash.*

Annual or perennial, narrow-leaved grasses; infl. usually a spiciform panicle; spikelets ovate or lanceolate; gl. I small; gl. II inflated-saccate, 5–13-veined; gl. III similar to gl. II but not saccate; gl. IV more or less coriaceous or crustaceous; palea 2-nerved; grain elliptic dorsally flattened, tightly enclosed.—Sp. over 30; throughout the Tropics.

Inflorescence spiciform:
  Glume I 3-veined, ½ as long as glume III; spikelets mostly 0·1 in. or less, gibbous:
    Panicle ½–3 in. long, spikelets lanceolate ovoid, sparsely hispid, curved, acuminate . . . 1. S. INDICA.
    Panicle 4–6 in. long; spikelets ovoid, glabrous, not curved, acute or subobtuse . . . 2. S. MYOSUROIDES.
  Glume I 5-veined, minute; panicle 6–10 in. long; spikelets lanceolate . . . 3. S. INTERRUPTA.
Inflorescence an effuse panicle . . . 4. S. CURVATA.

*Page* 147.—For *Panicum indicum* Linn. read:

1. **Sacciolepis indica** Chase, in Proc. Biol. Wash. I, p. 8 (1908). *Panicum indicum* Linn. Mant. II, p. 184 (1771). *Aira indica* Linn. Sp. Pl. p. 63 (1753) errore *spicata*.

*Page* 148.—For *Panicum myosuroides* Br. read:

2. **Sacciolepis myosuroides** Hughes, in Kew Bull. 1923, p. 330. *Panicum myosuroides* R. Br. Prodr. p. 189 (1810).

*Page* 147.—For *Panicum interruptum* Willd. read:

3. **Sacciolepis interrupta** Stapf, in Fl. Trop. Afr. IX, p. 757 (1917). *Panicum interruptum* Willd. Sp. Pl. I, p. 341 (1797).

*Page* 148.—For *Panicum curvatum* Linn. read:

4. **Sacciolepis curvata** Chase, in Proc. Biol. Soc. Wash. XXI, p. 8 (1908). *Panicum curvatum* Linn. Syst. Nat., ed. 12, p. 732 (1757). Dambulla.

### 4c. HYMENACHNE *Beauv.*

Perennial grasses; infl. a spiciform panicle; gl. I small, membranous, keeled; gl. II prominently 3-nerved, mucronate or awned; gl. III longer than gl. II, awned, 5-veined, 2 lateral veins faint; gl. IV membranous or slightly coriaceous in fruit; palea similar to gl. IV, stam. 3; styles 2; free.

For *Panicum Myurus* H. B. K. read:

**Hymenachne amplexicaulis** Nees Agrost. Bras. p. 276 (1829). *Panicum amplexicaule* Rudge, Fl. Guian. p. 21 t. 27 (1805). *P. Myurus* H. B. K. Nov. Gen. and Sp. I, p. 98 (1815) excl. syn. Lamk.

### 4d. PANICUM *Linn.*

Glume IV not polished:
  Glume IV smooth:
    Glume I nearly as long as glume III . . 1. P. BREVIFOLIUM.
    Glume I $\frac{1}{3}$ of glume III:
      Prostrate shade-plant, with effuse panicle . 2. P. SPARSICOMUM.
      Erect marsh-plant, with fastigiate panicle . 3. P. AURITUM.
  Glume IV finely rugulose . . . . . 3a. *P. maximum.*
Glume IV smooth and polished:
  Glume I under $\frac{1}{2}$ glume III; glume II 9–11 veined or if 7-veined, then glume III 7–9-veined:
    Perennials; stems creeping and rooting at the nodes:
      Leaves glaucous; sheath hairy for some distance; roots thick, white; spikelets ovate-lanceolate, 0·4–0·11 in. long . . 4. P. REPENS.
      Leaves dull green; sheath with a ring of hairs, representing the ligule, at the apex; roots fibrous; spikelets lanceolate, 0·12–0·14 in. long . . . . . . 5. P. PALUDOSUM.
    Annuals; stems not creeping:
      Spikelets $\frac{1}{6}$–$\frac{1}{5}$ in; glumes cuspidate; sheaths hirsute . . . . . . . . 5a. *P. miliaceum.*
      Spikelets $\frac{1}{10}$–$\frac{1}{8}$ in.:
        Sheaths glabrous; stems slender:
          Leaves up to 2 in. long . . . . 6. P. PSILOPODIUM.

Leaves up to 8 in. long . . . . 6a. *P. miliare.*
Sheaths hispid; stems up to 0·3 in. diam. at base . . . . . . . . 7. P. LUZONENSE.
Glume I over ⅔ glume III:
Glume III 7–9-veined:
Leaves glabrous . . . . . . . 8. P. ANTIDOTALE.
Leaves more or less hairy . . . . 9. P. TRYPHERON.
Glume III 3–5-veined:
Leaves linear; plant 2–15 in. . . . 10. P. HUMILE.
Leaves broadly lanceolate; plant 3–4 feet . 11. P. MONTANUM.

*Page* 149.—For *Panicum ovalifolium* Poir. read:

1. **P. brevifolium** Linn. Sp. Pl. p. 59 (1753); Rendle in Journ. Linn. Soc. XXXVI, p. 328 (1904). *P. ovalifolium* Poir. Encycl. Suppl. IV, p. 279 (1797).

Moist country, up to 4000 ft., very common in shady places.

2. **P. sparsicomum** Nees. *Cyrtococcum sparsicomum* A. Camus, in Bull. Mus. Nat. Hist. Par. 1921, p. 118.

Dambulla Rock, in dense shade.

The affinity of this species appears to be with *P. brevifolium* Linn., but, perhaps, both would be better placed in *Cyrtococcum* Stapf.

3. **P. auritum** Presl.; Haines Bot. Bih. and Or. p. 996 (1924).

I have followed Haines, who retains this in *Panicum,* though it appears to be more closely related to *Hynenachne,* where Backer places it.

*Page* 155.—For *P. proliferum* Lam. read:

5. **P. paludosum** Roxb. Hort. Beng. p. 6 (1814) nomen; Fl. Ind. I, p. 307 (1820); Merr. in Phil. Journ. Sc. IV, p. 249 (1909). *P. proliferum* Hk. f. in Trim. Fl. Ceyl. V, p. 155 (1900) non Lamk.

5a. P. MILIACEUM Linn. **Meneri,** *S.* (not *Wal-meneri*).

6. **P. psilopodium** Trim.

Dry region; rather rare? Trincomalee; Tissa-maha-rama. Also in India.

6a. P. MILIARE Lamk. **Hin-meneri,** *S.*

For *Panicum cæsium* Hk. read:

7. **P. luzonense** Presl. Rel. Haenk. I, p. 308 (1830). *P. cæsium* Nees in Hk. Kew Journ. II, p. 97 (1850) non Hk & Arn.

P. THWAITESII Hack. in Oest. Bot. Zeitschr. p. 334 (1901).

I have not seen the description of this species.

### 4e. CYRTOCOCCUM *Stapf.*

Perennial, shade-loving grasses, with weak, prostrate or ascending culms; infl. paniculate; spikelets obovate, laterally compressed, gibbous; gl. I, about ½ as long as gl. III membranous, 3-veined, gl. II 3–5-veined; gl. III obovate-oblong, 3–5-veined; gl. IV gibbous, coriaceous; pales oblong coriaceous; lodicules 2; stam. 3; styles pale mauve or white.—Sp. 7; mostly Malayan, 1 in Tropical Africa.

Spikelets hispidulous, usually shortly pedicelled . 1. C. TRIGONUM.
Spikelets glabrous :
Spikelets short pedicelled . . . . . 2. C. OXYPHYLLUM.
Spikelets long pedicelled . . . . . 3. C. PATENS.

For *Panicum trigonum* Retz. read:

1. **Cyrtococcum trigonum** A. Camus in Bull. Mus. Hist. Nat. Par. 1921, p. 118. *Panicum trigonum* Retz. Obs. III, p. 9 (1783) excl. syn.

For *Panicum pilipes* Nees & Arn. read:

2. **Cyrtococcum oxyphyllum** Stapf ex Ridl. Fl. Mal. Pen. V, p. 253 (1925). *Panicum oxyphyllum* Hochst. ex Steud. Syn. Gram. p. 65 (1854). *P. hermaphroditum* Steud. l. c. p. 69. *P. pilipes* Nees & Arn. ex Buse. in Miquel Pl. Jungh. III, p. 376 (1851–5).

For *Panicum patens* Linn. read:

3. **Cyrtococcum patens** A. Camus l. c. *P. patens* Linn. Sp. Pl. p. 58 (1753).

## 4f. PASPALIDIUM *Stapf.*

Perennial or rarely annual grasses; ligule represented by a hairy ridge; spikelets ovate to lanceolate, unawned, in secund, spiciform racemes; gl. I small, abaxial; gl. II 5–7-veined; gl. III similar to gl. II; gl. IV dorsally convex, crustaceous; palea crustaceous; styles 2, free; grain tightly enclosed.—Sp. 12; Tropics generally.

Spikes shorter than the internode; leaves mostly obtuse or acuminate from the inrolling of the margins; spikelets 0·08–0·09 in. . . . 1. P. FLAVIDUM.
Spikes larger than the internodes; leaves acuminate :
Glume IV granulate, lower spikes as long as or exceeding the internode; spikelets 0·1–0·12 in.; gl. LL about ½ IV . . . . . . 2. P. PUNCTATUM.
Glume IV smooth; lower spikes as long or shorter than the internodes, upper crowded; spikelets 0·08 in.; gl. II usually equals IV . 3. P. GEMINATUM.

For *Panicum flavidum* Retz. read:

1. **Paspalidium flavidum** Stapf, ex Haines Bot. Bih. and Or. p. 1001 (1924). *Panicum flavidum* Retz. Obs. IV, p. 15 (1786).

For *Panicum punctatum* Burm. read:

2. **Paspalidium punctatum** Stapf, ex Haines Bot. Bih. and Or. p. 1001 (1924). *Panicum punctatum* Burm. f. Fl. Ind. p. 26 (1768).

For *Panicum fluitans* Retz. read:

3. **Paspalidium geminatum** Stapf, in Fl. Trop. Afr. IX, p. 583 (1917). *Panicum geminiatum* Forsk. Fl. Æg. Arab. p. 18 (1775). *P. fluitans* Retz. Obs. V, p. 18 (1783).

### 4g. **UROCHLOA** *Beauv.*

Annual or perennial grasses; ligule reduced to a hairy ridge; spikelets arranged in panicles of secund spikes; gl. I small, abaxial; gl. II longer, 5–7-veined; gl. III similar to gl. II; gl. IV obtuse and mucronate at apex; palea crustaceous; grain tightly enclosed.—Sp. 18; mostly in the Old World.

Glume I 5-veined:
  Spikelets $\frac{1}{10}$–$\frac{1}{8}$ in. . . . . . . . . 1. U. SETIGERA.
  Spikelets $\frac{1}{8}$–$\frac{1}{6}$ in. . . . . . . . . 2. U. HELOPUS.
Glume I veinless . . . . . . . . 3. U. REPTANS.

*Page* 141.—For *Panicum setigerum* Retz. read:

1. **Urochloa setigera** Stapf, in Fl. Trop. Afr. IX, p. 598 (1917). *Panicum setigerum* Retz. Obs. IV, p. 15 (1786).

*Page* 142—For *Panicum javanicum* Poir. read:

2. **Urochloa Helopus** Stapf, in Fl. Trop. Afr. IX, p. 595 (1917). *Panicum Helopus* Trin. ex Spreng. N. Entdeck. II, p. 84 (1821). *P. javanicum* Hk. f. in Trim. Fl. Ceyl. V, p. 142 (1900) non Poir.

*Page* 138.—For *Panicum prostratum* Lamk. read:

3. **Urochloa reptans** Stapf, in Fl. Trop. Afr. XI, p. 601 (1917). *Panicum reptans* Linn. Syst. Nat., ed. 10, II, p. 870 (1759). *P. prostratum* Lamk. Ill. I, p. 171 (1791).

Native of Tropical America (Hitchcock and Chase Contr. U.S. Nat. Herb. XVII, p. 467), but this seems unlikely, as the other species are found in the Old World.

### 4h. **HEMIGYMNIA** *Stapf.*

Annual or perennial grasses; ligule represented by a ciliate ridge; panicle of continuous or interrupted spikes; spikelets ovate-oblong, glabrous; gl. I & II subequal; gl. I 3–5-veined, $\frac{1}{4}$ to nearly as long as gl. III; gl. II, ovate-lanceolate, 3–7-veined, acuminate; gl. III, 5–9-veined, ovate oblong; gl. IV, oblong, aristulate or not; palea thinly coriaceous, minutely granulate, obscurely 5-veined.—Sp. 3; Tropical Asia and Africa.

Spikes not interrupted; inflorescence panicled . 1. H. JAVANICA.
Spikes interrupted:
  Inflorescence panicled . . . . . . 2. H. ARNOTTIANA.
  Inflorescence spiciform . . . . . 3. H. CANALICULATA.

*Page* 137.—For *Panicum ambiguum* Trim. read:

1. **Hemigymnia javanica** (Poir.). *Urochloa javanica* Stapf in Fl. Trop. Afr. IX, p. 597 (1917). *Panicum javanicum* Poir. in Encycl. Suppl. IV, p. 274 (1816) non Hk. f. *Panicum ambiguum* Trin. Gen.

Panic. p. 155 (1835) non Lapeyr. *Urochloa paspaloides* Presl. Rel. Haenk. I, p. 318 (1830).

Hitchcock and Chase (Contr. U.S. Nat. Herb. XX, p. 35) refer this to *Brachiaria* Griseb. The name *P. ambiguum* was published in 1835, not in 1820 as stated by Hooker.

*Page* 145.—For *Panicum nodosum* Kunth read:

2. **Hemigymnia Arnottiana** Stapf, in Fl. Trop. Afr. IX, p. 742 (1917) (*arnottiana*). *Panicum Arnottianum* Nees ex Steud. Syn. I, p. 59 (1854). *P. nodosum* Hk. f. in Trim. Fl. Ceyl. V, p. 145 (1900) non Kunth. *P. malabaricum* Merr. in Phil. Journ. Sc. IV, p. 248 (1909) non Linn. *Hemigymnia multinodis* Ridl. Fl. Mal. Pen. V, p. 228 (1925) pp. non Stapf.

No. 294 may be *H. fusca* Ridl.

*Page* 144.—For *Panicum canaliculatum* Nees read:

3. **Hemigymnia ?canaliculata** (Nees). *Panicum canaliculatum* Nees in Wight Cat. no. 1624 (1836); Steud. Syn. Gram. p. 55 (1854).

Stapf (Fl. Trop. Afr. IX, p. 242) states that "this species finds its closest allies amongst the species of *Setaria* in which the 'bristle' apparatus is reduced to a minimum."

### 4i. ACROCERAS *Stapf.*

Perennial grasses with creeping stems; spikelets glabrous, ovate-oblong; gl. I about $\frac{2}{3}$ as long as gl. II, ovate, acute with a thickened, compressed tip; gl. II similar to gl. I; gl. III broader than gl. II, 7-veined; gl. IV aristulate, dorsally convex, smooth; lodicules 2; stam. 3; grain broadly oblong.—Sp. 9; throughout the Tropics.

*Page* 138.—For *Panicum oryzoides* Sw. read:

**Acroceras crassiapiculatum** (Merr.). *Panicum crassiapiculatum* Merr. in Phil. Journ. Sc. I, Suppl. p. 356 (1906). *P. latifolium* Hk. f. in Fl. Brit. Ind. VII, p. 39 (1897) excl. syn. *P. oryzoides* Hk. f. in Trim. Fl. Ceyl. V, p. 138 (1900) nec Ard. nec Sw. *P. Ridleyi* Hack. ex Ridl. in Trans. Linn. Soc. Bot. III, p. 400 (1877) nomen. *Acroceras oryzoides* Stapf, in Fl. Trop. Afr. IX, p. 622 (1920) pp. *A. Ridleyi* Stapf, ex Ridl. Fl. Mal. Pen. V, p. 229 (1925).

### 4j. ECHINOCHLOA *Beauv.*

Annual or perennial grasses; panicles of secund spiciform racemes; spikelets ovate or lanceolate, usually mucronate or awned; gl. I, small, 3–5-veined; gls. II & III subequal, 5–7-veined; gl. IV coriaceous or crustaceous and polished; palea similar; grain elliptic.—Sp. 20–25; warmer parts of the world.

Ligule wanting; annuals:
  Glume III cuspidate . . . . . . . 1. E. COLONA.
  Glume III awned, awn 0·2–0·5 in. long . . 2. E. CRUS-GALLI.
Perennial; awn 0·15 in. long . . . . . 3. E. STAGNINA.

*Page* 136.—For *Panicum colonum* Linn. read:

1. **Echinochloa colona** Link, Hort. Berol. II, p. 209 (1833). *Panicum colonum* Linn. Syst., ed. 10, p. 870 (1759).

For *Panicum Crus-galli* var. *frumentaceum* Trim. read:

**E. colona** var. **frumentacea** Roxb. ex Ridl. Fl. Mal. Pan. V, p. 223 (1925). *Panicum frumentaceum* Roxb. Fl. Ind. I, p. 307 (1920) non Salisb. *Echinochloa frumentacea* Link, Hort. Berol. I, p. 204 (1827). *E. Crus-galli* var. *frumentacea* W. F. Wt. Suppl. Cent. Dict. p. 810 (1909). *E. Crus-galli* var. *edulis* Hitchc. in U.S. Dept. Agr. Bull. no. 772, p. 239 (1920). *Panicum Crus-galli* var. *frumentaceum* Trim. Syst. Cat. p. 104 (1885).

For *Panicum Crus-galli* var. *stagninum* Trim. read:

2. **Echinochloa Crus-galli** Beauv. Agrost. p. 53 (1812). *Panicum Crus-galli* Linn. Sp. Pl. p. 56 (1753) var. *stagninum* Trim. Fl. Ceyl. V, p. 136 (1900) excl. syn. Retz.

*Page* 135.—For *Panicum Crus-galli* Linn. read:

3. **Echinochloa stagnina** Beauv. Agrost. p. 161 (1812). *Panicum stagninum* Retz. Obs. V, p. 17 (1789). *P. Crus-galli* Hk. f. in Trim. Fl. Ceyl. V, p. 135 (1900) pp. non Linn.

4k. RHYNCHELYTRUM *Hochst.*

R. ROSEUM Stapf & Hubbard. *Tricholæna rosea* Nees. Fl. Afr. Austr. I, p. 17 (1847).

There is large patch of this grass by the roadside at Haragama; it has occurred elsewhere as a casual.

A native of Natal.

*Page* 161.—

**Ichnanthus pallens** Munro.
Hunasgiriya.

*Page* 162.—

6. **SETARIA** *Beauv.*

Leaves plicate:
  Plants perennial:
    Bristles less than twice as long as the spikelets . . . 1. S. PALMIFOLIA.
    Bristles more than twice as long as the spikelets . . . . . . . . . 1a. *S. sulcata.*
  Plants annual . . . . . . . 1b. *S. barbata.*
Leaves not plicate (the remaining species).

*Page* 157.—For *Panicum plicatum* Lamk. read:

1. **Setaria palmifolia** Stapf, in Journ. Linn. Soc. Bot. XLII, p. 186 (1914). *Panicum palmæfolium* Koen. in Naturf. XXIII, p. 208 (1788). *P. plicatum* Willd. Enum. p. 1033 (1809) non Lamk. *Chætochloa palmifolia* Hitchc. in Contr. U.S. Nat. Herb. XXII, p. 161 (1920).

Called " Palm Grass " in America.

1a. S. SULCATA. (Aubl.). *Panicum sulcatum* Aubl. Pl. Guian. I, p. 50 (1775). *Chætochloa sulcata* Hitchc. in Contr. U.S. Nat. Herb. XVII, p. 260 (1913).

Cultivated in Ceylon under the name " Buffalo Grass " and perhaps also wild. If it is conspecific with *S. palmifolia, S. sulcata* is an older name.

1b. S. BARBATA Kunth, Rev. Gram. I, p. 47 (1829). *Panicum barbatum* Lamk. Tabl. Encycl. I, p. 171 (1791). *Chætochloa barbata* Hitchc. & Chase in Contr. U.S. Nat. Herb. XVIII, p. 348 (1917). ?*Setaria homonyana* Chiov.

Native country unknown.

Hooker (in Trim. Fl. Ceyl. V, p. 15) states that this is a native of Tropical America, but Hitchcock (Contr. U.S. Nat. Herb. XXII, p. 159) says " A weed in cultivated ground and waste places from the West Indies to Brazil; introduced from Tropical Asia." Lamarck's type was from Mauritius, and Roxburgh (Fl. Ind., ed. Carey I, p. 314, under *P. costatum*) says : " Introduced into the Botanic Gardens from Mauritius, by Captain Tennant, in 1802," but Baker (Fl. Maurit. pp. 435, 436) refers *P. barbatum* to *P. prostratum* Lamk. and *P. costatum* to *P. plicatum* Lamk.

**Setaria glauca** Beauv. ; Stapf in Kew Bull. 1928, p. 147.

Add Syn :

*S. lutescens* Hubbard, in Rhodora XVIII, p. 232 (1916). *Panicum lutescens* Weigel, Obs. Bot. p. 20 (1772). *Chætochloa lutescens* Stuntz. in U.S. Dept. Agr. Bur. Fl. Ind. Seeds XXXI, p. 83 (1912). *Setaria flava* Kunth Rev. Gram. I, p. 46 (1829). *Panicum flavum* Nees ex Trim. Gen. Panic. p. 162 (1826). *Setaria glauca* var. *aurea* K. Sch. in K. Sch. and Laut. Fl. Deut. Schutzg. Südsee p. 223 (1901).

Var. ?**purpurascens** Urb. Symb. Ant. IV, p. 96 (1903).

*S. geniculata* Beauv. Agrost. p. 51 (1812). *Panicum geniculatum* Lamk. Encycl. IV, p. 727 (1798). *Chætachloa geniculata* Millsp. & Chase in Field Mus. Bot. III, p. 37 (1903) ; Hitchc. & Chase l. c. p. 168 ; *Panicum glaucum* var. *purpurascens* Ell. Bot. S. C. and Ga. I, p. 113 (1816).

As type, but perennial ; infl. shorter ; setæ shorter.

This is the common plant. I have only seen *S. glauca* proper as a weed among *Paspalum scrobiculatum*. Over 90 per cent. of some seed sown as *Amu* at the Agricultural School at Peradeniya turned out to be *Kavalu*, which is sometimes used as a substitute for *Amu*, but not, I think, intentionally cultivated.

*Page* 165.—For *Chamærophis spinescens* Poir. read :

**C. squarrosa** Chase in Contr. U.S. Nat. Herb. XXV, p. 203 (1925). *Andropogon squarrosum* Linn. f. Suppl. p. 433 (1781). *Panicum asperum* Koen. in Naturf. XXXIII, p. 209 (1788). *P. spinescens* R. Br. Prodr. p. 193 (1810). *Chamærapahis spinescens* Poir. Encycl. II, p. 189 (1786).

*Page* 166.—For *Axonopus* Beauv. read :

8. **ALLOTEROPSIS** *Presl.*

For *Axonopus cimicimus* read:

1. **Alloteropsis cimicina** Stapf in Fl. Trop. Afr. IX, p. 483 (1917). *Milium cimicimum* Linn. Mant. Alt. p. 184 (1771). *Axonopus cimicimus* Beauv. Agrost. p. 12 (1812).

For *Axonopus semialatus* Hk. f. read:

2. **Alloteropsis semialata** Hitchc. in Contr. U.S. Nat. Herb. XII, p. 210 (1909). *Panicum semialatum* R. Br. Prodr. p. 192 (1810). *Axonopus semialatus* Hk. f. in Fl. Brit. Ind. VII, p. 64 (1896).

*Page* 169.—

**Oplismenus Burmannii** Beauv.
Mullaitivu.

*Page* 170.—For *Pennisetum typhoideum* Rich. read:

P. SPICATUM R. & S. Syst. II, p. 499 (1817). *P. glaucum* Hitchc. & Chase in Contr. U.S.N.H. XXII, p. 216 (1921). *Panicum glaucum* Linn. Sp. Pl. p. 56 (1753) pp. *Holcus spicatus* Linn. Syst. Nat., ed 10 II, p. 1305 (1759). *Pennisetum typhoideum* L. Rich. in Pers. Syn. I, p. 72 (1805). *P. americanum* K. Sch. in Engl. Pflw. Ost.-Afr. Vb, p. 51 (1895), excl. syn. Linn.

*Page* 171.—For *Pennisetum orientale* Rich. read:

P. TRIFLORUM Nees in Steud. Syn. I, p. 107 (1854). *P. orientale* var. *triflorum* Stapf, in Fl. Brit. Ind. VII, p. 86 (1896).
This is called Himalaya Grass in the West Indies.

10a. CENCHRUS *Linn.*

A species of this genus has been collected at Maha-iluppa-lama; it may be *C. echinatus* Linn., which has become naturalised in Hawaii, the Philippines and Samoa.

*Page* 172.—For *Stenotaphrum complanatum* Schrank read:

**S. secundatum** O. Ktze. Rev. Gen. II, p. 794 (1891). *Ischæmum secundatum* Walt. Fl. Carol. p. 249 (1788). *S. complanatum* Schrank, in Bot. Zeit. III, p. 26 (1824).
Called " St. Augustine's Grass " in America.

*Page* 173.—For *Thuarea sarmentosa* Pers. read:

**T. involuta** R. Br. ex Steud. Nomencl., ed. 2, II, p. 682 (1841). *Ischæmum involutum* Forst. Prodr. p. 73 (1786). *Thuarea sarmentosa* Pers. Syn. I, p. 110 (1805).

*Page* 174.—For *Spinifex squarrosus* Linn. read:

**S. littoreus** Merr. in Phil. Journ. Sc. Bot. VII, p. 229 (1912). *Stipa spinifex* Linn. Mant. I, p. 84 (1767). *S. littorea* Burm. f. Fl. Ind. p. 29 (1768). *Spinifex squarrosus* Linn. Mant. II, p. 300 (1771).
The Sinhalese name means the " Great Beard of Ravana."

*Page* 175.—

14. **ARUNDINELLA** *Raddi.*

Add to key:

Annual:
Leaves 1 in. . . . . . . . . . . 1. A. AVENACEA.
Leaves 6 in. . . . . . . . . . . 1a. *A. pumila.*

1a. **A. pumila** Steud. Syn. Gram. p. 114 (1854). *Acratherum pumilum* Hochst. ex A. Rich. Tent. Fl. Abyss. II, p. 414 t. 100 (1851). *A. tenella* Nees ex Steud. Syn. Gram. p. 115 (1854); Hk. f. in Fl. Brit. Ind. VII, p. 71 (1879).

Annual; stem $\frac{1}{2}$–1$\frac{1}{2}$ ft., erect, glabrous or sparsely hairy, usually simple or sparingly branched from the base, rooting at the lower nodes; internodes 1$\frac{1}{2}$–2$\frac{1}{2}$ in. long; leaves lanceolate, about 6 in. long, $\frac{1}{4}$–$\frac{1}{2}$ in. broad, acuminate, tapering at base, membranaceous; leaf-sheath ciliate or glabrous; ligule very short; panicle nearly 1 ft. long, obovate-lanceolate in outline, copiously branched; branches alternate, or fasciculate in the lower part of the panicle; spikelets glabrous or sparsely hairy, $\frac{1}{14}$–$\frac{1}{12}$ in. long, on slender pedicels about $\frac{1}{5}$ in. long; glume I $\frac{2}{3}$ as long as glume III, elliptic, acuminate, 3-veined; glume II, ovate-lanceolate, acuminate 5-veined; glume III, lanceolate, 5-veined; glume IV, oblong, scabrid above, awned; awn twice as long as the spikelets, slightly twisted; grain dark brown.

By the roadside in the jungle at Yalkumbura, Bibile District, about 5 miles from the Bibile Rest House.

*Page* 182.—

**Oryza sativa** Linn.

The common wild rice of Ceylon is a perennial, and also differs from the cultivated *O. sativa* in the narrow glumes and exserted styles. Some specimens in the herbarium are labelled:

O. LONGISTAMINATA A. Chev. & Roehrich, in Compt. Rend. CLIX, p. 561 (1914). *O. sativa* Hk. f. in Trim. Fl. Ceyl. V, p. 182 (1900) pp. non Linn. *O. fatua* var. *longiaristata* Ridl. Fl. Mal. Pen. V, p. 252 (1925) pp.

W. Ferguson (m.s. in Herb. Perad.) notes that the rhizomes may be as long as 12 ft.

Ridley (Fl. Mal. Pen. V, p. 252) considers that the parent of the cultivated rice was an awnless species which he calls *O. fatua* Koen. and makes the plant wild in India var. *longearistata*.

A specimen collected at Batticaloa by Nevill has broader glumes and is probably the species or variety called Pundi-nel which may be *O. rufipogon* Griff. Not. III, p. 5 (1851); Ic. t. 145, f. 2 (1847).

Mr. Hubbard, in litt., apparently considers both plants to be *O. fatua* Koen.

*Page* 183.—For *Oryza granulata* Nees read:

3. **O. Meyeriana** Baill. Hist. Pl. XII, p. 166 (1894). *Padia Meyeriana* Zoll. & Mor. Verz. p. 103 (1854). *Oryza granulata* Nees ex Wall. Cat. no. 8634 (1845) nomen.

**Part V.**

*Page* 188.—For *Zoysia pungens* Willd. read:

**Z. Matrella** Merr. in Phil. Journ. Sc. Bot. VII, p. 230 (1912). *Agrostis Matrella* Linn. Mant. II, p. 185 (1771). *Osterdamnia Matrella* O. Ktze. Rev. Gen. p. 781 (1891). *Zoysia pungens* Willd. in Ges. Naturf. fr. Neue Schrift. III, p. 441 (1801).

*Page* 189.—For *Perotis latifolia* Ait. read:

**P. indica** O. Ktze. Rev. Gen. p. 789 (1891). *Anthoxanthum indicum* Linn. Sp. Pl. p. 28 (1753). *Perotis latifolia* Ait. Hort. Kew I, p 85 (1789).

*Page* 191.—

24. **COIX** *Linn.*

Leaves broad; male spikes suberect; styles white; stems 3–5 ft.; spikelets mostly 2-nate 1. C. LACHRYMA-JOBI.
Leaves narrow; male spikes pendulous; styles dark purple; spikelets mostly 3-nate . . 2. C. GIGANTEA.

2. **C. gigantea** Koen. ex Roxb. Fl. Ind. III, p. 569 (1832); Ferg. in Journ. As. Soc. Ceyl. VI, p. 2 (1880). *C. Lachryma-Jobi* var. *gigantea* Stapf ex Hk. f. in Fl. Brit. Ind. VII, p. 100 (1897). ?*C. agrestis* Lour. Fl. Cochinch. p. 551 (1790).

Stem about 5 ft.; internodes smooth; leaves narrower than in *C. Lachryma-Jobi*, 9–18 in. long, 0·3 in. broad, bright green, narrowed from a broad base to an acuminate tip; margins serrulate; midrib stout; veins slender, numerous; sheaths 2–5 in. long; racemes 1¼–2 in. long, nodding or drooping from very long peduncles; glume I elliptic-lanceolate, 0·4 in. long, pale green with a darker margin, II, III & IV lanceolate, acuminate; styles dark purple; fruit broadly ovoid, 0·3 in. long, 0·2 in. diam., pale brownish-grey, polished.

Low country in paddy fields. Naramulla, Kurungella; Ambepussa. Fls. Jan.-Feb.

There is also a specimen in the Peradeniya Herbarium, without exact locality, collected by Thwaites. The description of *C. Lachryma-Jobi* Linn. in Trimen's Flora was partly taken from that specimen.

W. Ferguson (l. c.) quite rightly states that this is the indigenous species, while *C. Lachryma-Jobi* Linn. is only known as a cultivated plant or as a casual.

*Page* 200.—For *Imperata arundinacea* Cyrill. read:

**I. cylindrica** Beauv. Agrost. p. 168 (1812). *Lagurus cylindricus* Linn. Syst. Nat. ed. 10, p. 878 (1759). *Imperata arundinacea* Cyrill. Pl. Rar. Neap. II, p. 27 (1792).

*Page* 206.—For *Rottbœllia* Kunth read:

Rachis of spike not fragile . . . . . . 30. HEMARTHRIA.
Rachis of spike fragile . . . . . . . 30a. ROTTBŒLLIA.

### 30. HEMARTHRIA *R. Br.*

Perennial grasses; ligules small, membranous; spikes compressed; rachis almost muriculate; gls. 4; gl. I 2-keeled, 7–9-veined, coriaceous; gl. II membranaceous, 3-veined, about the same length as gl. I; gl. III hyaline; gl. IV hyaline, veins 0; grain oblong, compressed.—Sp. 8; warmer parts of the Old World.

For *Rottbœllia compressa* Linn. f. read:

**Hemarthria compressa** R. Br. Prodr. p. 207 (1810). *Rottbœllia compressa* Linn. f. Suppl. p. 114 (1781). ?*Hemarthria glabra* Blatt. & McCann, in Journ. Bomb. N. H. S. XXXII, p. 27 (1927).

*Page* 210.—

**Mnesithea lævis** Kunth.

Add synonyms:

*Rottbœllia lævis* Retz. Obs. III, p. 11 (1783). *Mnesithea perforata* Haines Bot. Bih. and Or. p. 1060 (1924).

*Page* 211.—For *Ischæmum* Linn. read:

Spikes 2 or more . . . . . . . . 33. Ischæmum.
Spikes solitary . . . . . . . . . 33a. Sehima.

### 33a. SEHIMA *Forsk.*

Annual or perennial grasses; ligule of stiff hairs; infl. a solitary, terminal, spiciform raceme; gl. I grooved, 2-toothed, 2-keeled, winged, margins inflexed; gl. II keeled, awned; gl. III hyaline; gl. IV, 2-toothed, awned; gls. I & II of pedicelled spikelet not grooved; gls. III & IV not awned. —Sp. about 5; India, Tropical Africa, and N. America.

For *Ischæmum laxum* Br. read:

**Sehima nervosum** Stapf in Fl. Trop. Afr. IX, p. 36 (1917). *Andropogon nervosum* Rottl. ex Willd. in Verh. Naturf. Berl. IV, p. 218 (1803). *Ischæmum laxum* R. Br. Prodr. p. 205 (1810).

*Page* 221.—

**Eremochloa zeylanica** Hack.
Kurunegala.

*Page* 222.—For *Pogonatherum crinitum* read:

**P. paniceum** Hack. in Allg. Bot. Zeitschr. XII, p. 178 (1906). *Saccharum paniceum* Lamk. Encycl. I, p. 595 (1783). *Andropogon crinitum* Thunb., Fl. Jap. p. 40 t. 7 (1784). *Pogonantherum crinitum* Kunth Enum. p. 478 (1833).

*Page* 224.—

1. **Arthraxon rudis** Hochst.
Rather common in open places from 1600–4000 ft.

2. **A. microphyllus** Hochst.
Nildandahena.

*Page* 225.—For *A. ciliaris* Beauv. read:

**A. hispidus** Makino in Tok. Bot. Mag. XXVI, p. 214 (1912). *Phalaris hispidus* Thunb. Fl. Jap. p. 44 (1784). *Arthraxon ciliaris* Beauv. Agrost. p. 11 t. 9 f. 6 (1812). *A. quartinianus* Nash, N. Arn. Fl. XVII, p. 99 (1912). *A. cryptatherus* Koidz. in Tok. Bot. XXXIX, p. 301 (1925). **Kodi-pillu,** *T.*
Rather common on estates from 4000–5000 ft.

*Page* 226.—For *Apluda varia* Hack. read:

**A. mutica** Linn. Sp. Pl. p. 82 (1753). *A. aristata* Linn. Cent. II, p. 7 (1756). *A. varia* Hack. Monogr. Androp. p. 196 (1889).

For *Andropogon* Linn. read:

The subgenera of Trimen's Flora are regarded as genera in nearly all recent Floras.

39a. **AMPHILOPHIS** *Nash.*

Perennial grasses; primary axis of panicle often contracting giving the spikes a digitate appearance; spikelets in alternate pairs, a sessile bisexual, and a pedicelled male or neuter; gl. I, of sessile spikelets, 2-keeled, with narrow sharply inflexed margins; gl. II 3-veined, keeled; gl. III hyaline, veins 0; gl. IV represented by the hyaline base of the awn; palea minute or 0; grain oblong; gl. I, of pedicelled spikelets, many-veined; gl. IV wanting.—Sp. about 25; mostly in Tropical Asia.

*Page* 229.—For *Andropogon Pseudischæmum* Nees read:

1. **Amphilophis pseudischæmum** (Nees). *Andropogon Pseudischæmum* Nees ex Steud. Syn. Gram. p. 380 (1854).

*Page* 230.—For *Andropogon pertusus* Willd. read:

2. **Amphilophis pertusa** Stapf, in Fl. Trop. Afr. IX, p. 175 (1917). *Holcus pertusus* Linn. Mant. Alt. p. 301 (1771). *Andropogon pertusus* Willd. Sp. Pl. IV, p. 922 (1805).

For *Andropogon intermedius* Br. read:

3. **Amphilophis glabra** Stapf l. c. p. 172. *Andropogon glabra* Roxb. Fl. Ind. I, p. 271 (1820). *A. intermedius* Hk. f. in Trim. Fl. Ceyl. V, p. 230 (1900) non R. Br.

39b. **SORGHUM** *Pers.*

Annual or perennial grasses; infl. paniculate; spikelets in pairs, a sessile hermaphrodite and a pedicelled male, which

is sometimes represented by its pedicel only; gls., of sessile spikelet, 4; gl. I coriaceous, margins involute; gl. II similar to I, but margins hyaline, ciliate; gl. III hyaline, ciliate; gl. IV 1–3-veined, bifid, awned; palea hyaline; stam. 3; gls. III and IV of pedicelled spikelets 1–2-veined, hyaline, ciliate, awnless.—Sp. mostly African.

*Page* 231.—For *Andropogon halepensis* Brot. read:

1. **Sorghum halepense** Pers. Syn. I, p. 101 (1805). *Holcus halpensis* Linn. Sp. Pl. p. 1047 (1753). *Andropogon halpensis* Brot. Lusit. I, p. 89 (1804).

This is called "Johnson Grass" in America.

*Page* 232.—For *Andropogon Sorghum* Brot. read:

1a. SORGHUM VULGARE Pers. Syn. I, p. 101 (1805). *Holcus Sorghum* Linn. Sp. Pl. p. 1047 (1753). *Andropogon Sorghum* Brot. Fl. Lusit. I, p. 88 (1804).

For *Andropogon serratus* Thunb. read:

2. **Sorghum nitidum** Pers. Syn. I, p. 101 (1805). *Andropogon serratus* Thunb. Fl. Jap. p. 41 (1784) nec *Sorghum serratum* R. & S. nec *Holcus serratus* Thunb. *Holcus nitidus* Vahl Symb. Bot. II, p. 102 (1791).

### 39c. VETIVERIA *Thouars.*

Perennial grasses; spikelets in pairs, a sessile female and a pedicelled male; gls., of sessile spikelets, 4; gl. I more or less coriaceous with slightly inflexed margins; gl. II keeled, margin hyaline, ciliate; gl. III 2-veined; gl. IV, hyaline, minutely bifid, awned or not; palea minute, veins 0; stam. 3; grain oblong; glumes of pedicelled spikelet thinner, usually awnless.—Sp. 7; Old World Tropics.

*Page* 233.—For *Andropogon squarrosus* Linn. f. read:

1. **Vetiveria zizanioides** Nash, in Small Fl. S.E.U.S. p. 67 (1903). *Phalaris zizanioides* Linn. Mant. p. 183 (1771). *Andropogon squarrosus* Linn. f. Suppl. p. 443 (1781). *A. zizanioides* Urb. Symb. Antill, IV, p. 79 (1903). *Anatherum zizanioides* Hitchc. & Chase in Contr. U.S. Nat. Herb. XVIII, p. 285 (1917).

Supposed to be a native of Tropical Africa (Stapf in Fl. Trop. Afr. IX, p. 157).

For *Andropogon venustus* Thw. read:

2. **Vetiveria venustus** Willis Cat. p. 88 (1911). *Andropogon venustus* Thw. Enum. p. 367 (1864).

### 39d. CHRYSOPOGON *Trin.*

Perennial grasses; infl. a lax panicle; spikelets 3 together, 1 sessile and 2 pedicelled; gl. I, of sessile spikelets, ridged, 4-veined; gl. II broader, 3-veined, bifid, awned or not; gl.

III hyaline, 2-veined; gl. IV represented by the hyaline base of the awn; palea small or wanting; grain linear, dorsally compressed.—Sp. 18; mostly in the Old World Tropics.

*Page* 234.—For *Andropogon aciculatus* Retz. read:

1. **Chrysopogon aciculatus** Trin. Fund. Agrost. p. 188 (1820). *Andropogon aciculatus* Retz. Obs. V, p. 22 (1783). *Rhaphis trivialis* Lour. Fl. Cochinch. p. 553 (1790). *R. acicularis* Desv. Opusc. p. 69 (1831). *R. trivalvis* Hk. f. in Fl. Brit. Ind. VII, p. 188 (1897) sphalm.

*Page* 235.—For *Andropogon zeylanicus* Nees read:

2. **Chrysopogon zeylanicus** Thw. Enum. p. 366 (1864). *Andropogon zeylanicus* Nees ex Steud. Syn. p. 397 (1884). *Rhaphis zeylanica* Nees l. c.

*Page* 236.—For *Andropogon monticola* Schult. read:

3. **Chrysopogon monticola** Haines in Ind. For. XL, p. 495 (1914). *Andropogon monticola* Schult. Mant. III, p. 665 (1827).

### 39e. DICHANTHIUM *Will.*

Annual or perennial grasses; spikes subdigitate, solitary or in panicles; spikelets in pairs, a sessile hermaphrodite and a pedicelled male or neuter; gls. of sessile spikelet 4; gl. I obtuse, 2-keeled; gl. II 3-veined, 1 or 3-keeled; gl. III hyaline; gl. IV represented by the hyaline base of the awn; palea minute or wanting; grain oblong; dorsally compressed; gl. I of pedicelled spikelet many-veined; gl. IV usually wanting.—Sp. 10; warmer parts of the Old World.

*Page* 237.—For *Andropogon caricosus* Linn. read:

1. **Dichanthium caricosum** A. Camus in Leconte Fl. Indo-Chine VII, p. 318 (1921). *Andropogon caricosus* Linn. Sp. Pl., ed. 2, p. 1480 (1762).

*Page* 237.—For *Andropogon polyptychus* Steud. read:

2. **Dichanthium polyptychum** (Steud.). *Andropogon polyptychum* Steud. Syn. Gram. p. 380 (1854).

### 39f. HETEROPOGON *Pers.*

Perennial grasses; spikelets in pairs, lowest pairs male or neuter; gl. I, of sessile spikelets, oblong; gl. II with a rounded keel; gl. III hyaline; gl. IV represented by the base of the awn; pedicelled spikelets male or neuter; gl. I many-veined; gl. IV hyaline, not awned.—Sp. 6; warmer parts of the world.

*Page* 238.—For *Andropogon contortus* Linn. read:

1. **Heteropogon contortus** Beauv. ex R. & S. Syst. II, p. 836 (1817). *Andropogon contortus* Linn. Sp. Pl. p. 1045 (1753).

*Page* 239.—For *Andropogon triticeus* Br. read:

2. **Heteropogon triticeus** Stapf, ex Craib, in Kew Bull. 1912, p. 432. *Andropogon triticeus* R. Br. Prodr. p. 201 (1810).

### 39g. SCHIZACHYRIUM *Nees.*

Annual or perennial grasses; spikes solitary; spikelets in pairs, a sessile hermaphrodite and a pedicelled neuter; gl. I of sessile spikelet, keeled; gl. II minutely awned or unawned; gl. III hyaline; gl. IV hyaline, bifid, awned.—Sp. 50; Tropics generally.

*Page* 240.—For *Andropogon hirtiflorus* Kunth read:

**Schizachyrium sanguineum** (Retz.). *Rottbœllia sanguinea* Retz. Obs. III, p. 25 (1783). *Andropogon semiberbis* Kunth, Enum. I, p. 489 (1633). *Schizachyrium semiberbe* Nees. Agrost. Bras. p. 336 (1833). *Andropogon hirtiflorus* Hk. f. in Trim. Fl. Ceyl. V, p. 240 (1900) non Kunth. ?*Pollinia fulva* Desv. Opusc. p. 69 (1831).

### 39h. CYMBOPOGON *Spreng.*

Perennial, usually aromatic grasses; spikes in pairs on common peduncles arranged in panicles; spikelets in pairs, lowest pair of spikelets male or neuter, upper pairs with a female or hermaphrodite sessile spikelet and a pedicelled male or neuter spikelet; gl. I, of sessile spikelet, 2-keeled; gl. II usually 1-veined; gl. III hyaline, oblong, 2-veined; gl. IV hyaline, bifid; stam. 3; grain oblong; gl. IV of pedicelled spikelet wanting.—Sp. about 36; Old World Tropics.

Column of awn glabrous or nearly so:
 Ped. of spikes shorter than the proper bracts:
  Panicle large, compound; spikelets $\frac{1}{7}$–$\frac{1}{5}$ in.:
   Leaf-base broad, cordate . . . 1. C. POLYNEUROS.
   Leaf-base narrow, not cordate:
    Sessile spikelets lanceolate to obovate-lanceolate, back flat; plants often flowering:
     Leaves drooping for $\frac{2}{3}$ length, light green; stem tall; suberect; plants shallow-rooted; sterile shoot cream-coloured in section; glume II mucronate . 1a. *C. Winterianus.*
     Leaves drooping for $\frac{1}{3}$ length; stems erect; plants deep-rooted; sterile shoot red in section:
      Stems dwarfed; sessile and pedicelled spikelets usually similarly coloured; glume II mucronate . . . . . 1b. *C. Nardus.*

Stem tall; sessile and pedicelled spikelets dissimilarly coloured; glume II acuminate . . 2. C. CONFERTIFLORUS.
Sessile spikelets linear to lanceolate, back concave in lower part; plants rarely flower . . . . . 2a. *C. citratus.*
Panicle narrow; spikelets $\frac{1}{5}$–$\frac{1}{3}$ in. . . 3. C. THWAITESII.
Ped. of spike longer than the proper bracts 4. C. LIVIDUS.
Column of awn hirsute . . . . . 5. C. FILIPENDULUS.

*Page* 242.—For *Andropogon Schoenanthus* Spreng. read:

1. **Cymbopogon polyneuros** Stapf, in Kew Bull. p. 361 (1905); Willis Cat. no. 2719 (1911). *Andropogon polyneuros* Steud. Syn. I, p. 610 (1889). *A. versicolor* Thw. Enum. p. 367 (1864) non Steud. *Cymbopogon Schoenanthus* Willis Cat. no. 2714 (1911) non Stapf.

1a. C. WINTERIANUS Jowitt, in Ann. Perad. IV, p. 188 (1907); Willis Cat. no. 2715 (1911). *C. Nardus* Stapf l. c. p. 354 pp.; Jowitt l. c. p. 189. ?*Andropogon Nardus* Linn. Sp. Pl. p. 1046 (1753) pp. *A. Nardus genuinus* Hackel; Hk. f. l. c. p. 243. **Maha-pengiri,** *S.* Old Citronella grass, Winter's grass.

C. NARDUS Rendle in Welw. Cat. II, p. 155 (1899); Stapf, l. c. p. 354 pp. **Lena-batu-pengiri, Hin-pengiri,** *S.* (Jowitt). **Karpura-pillu, Vasana-pillu,** *T.* (Stapf). **New Citronella grass.**

**A. Schoenanthus** Linn. Sp. Pl. p. 1046 (1753) pp.; Fl. Zeyl. no. 465.

Kalanduru, S. (Hermann) is stated by Stapf, p. 304, to be *Cyperus rotundus* Linn.

*Page* 242.—For *Andropogon Nardus* Linn. read:

2. **Cymbopogon confertiflorus** Stapf, l. c. p. 355 (1905); Jowitt, l. c. p. 188. *Andropogon confertiflorus* Steud. Syn. I, p. 384 (1855). *A. Nardus* Hk. f. l. c. p. 242 non Linn. *C. Nardus* Stapf, l. c. p. 354 pp. **Mana,** *S.*

21a. C. CITRATUS Stapf, l. c. p. 357. *Andropogon citratus* DC. Cat. Hort. Monsp. p. 78 (1813); Hk. f. in Trim. Fl. V, p. 246 (1900) pp. **Lemon grass, Sera,** *Malay.*

*Page* 243.—For *Andropogon Thwaitesii* Hk. f. read:

3. **Cymbopogon Thwaitesii** Willis Cat. no. 2720 (1911). *Andropogon Thwaitesii* Hk. f. in Trim. Fl. Ceyl. V, p. 243 (1900).

*Page* 244.—For *Andropogon lividus* Thw. read:

4. **Cymbopogon lividus** Willis Cat. no. 2721 (1911). *Andropogon lividus* Thw. Enum. p. 367 (1864).

*Page* 245.—For *Andropogon filipendulus* Hochst. read:

5. **Cymbopogon filipendulus** Willis Cat. no. 2722 (1911). *Andropogon filipendulus* Hochst. in Flora XXIX, p. 115 (1846).

*Page* 247.—For *Anthistiria* L. read:

41. **THEMEDA** *Frosk.*

Involucral spikelets truly whorled; straw-coloured . 1. T. AUSTRALIS.
Involucral spikelets in closely superposed pairs:
  Callus of bisexual spikelets short, obtuse:
    Infl. a decomposed, thyrsiform panicle . . 2. T. CYMBARIA.
    Infl. a racemiform panicle; stem reddish . . 3. T. TREMULA.
  Callus of bisexual spikelets acute . . . . 4. *T. gigantea.*

*Page* 248.—For *Anthistiria inberbis* Retz. read:

1. **Themeda australis** Stapf, in Fl. Trop. Afr. IX, p. 420 (1917). *Anthistiria australis* R. Br. Prodr. p. 200 (1810). *A. imberbis* Hk. f. in Trim. Fl. Ceyl. V, p. 248 (1900) non Retz.

Tropical Asia and Australia (see Fl. Trop. Afr. IX, p. 416).

*Page* 249.—For *Anthistiria cymbaria* Roxb. read:

2. **Themeda cymbaria** Hack. Mon. Androp. p. 668 (1889). *Anthistria cymbaria* Roxb. Hort. Beng. p. 6 (1814); Fl. Ind. I, p. 251 (1820) excl. syn.

For *Anthistiria tremula* Nees read:

3. **Themeda tremula** Hack. l. c. p. 667. *Anthistiria tremula* Nees ex Steud. Syn. Gram. p. 401 (1854).

4. T. GIGANTEA Hack. l. c. p. 672. *Anthistiria gigantea* Cav. Ic. t. 36 (1791).

An erect perennial, about 6 ft. high; lvs. 3 ft. long, $\frac{3}{4}$ in. broad, scaberulous; midrib prominent, white; panicle, 1–2 ft., nodding; spathe longer than spikelets, scaberulous; hermaphrodite spikelets 1–3; gls. green, hirsute with dark brown hairs.

Often found as an escape, as at Haragama.

Native of India.

## 42a. ANTHOXANTHUM *Linn.*

A. ODORATUM Linn. Sp.Pl. p. 28 (1753); Hk. f. in Fl. Brit. Ind. VII, p. 222 (1897).

Upper montane zone; Nuvara Eliya (1879, 1903); Hakgala (1903).

A native of Europe and N. Africa, introduced in India.

*Page* 252.—

## 43. ARISTIDA *Linn.*

Add to key:

Empty glumes not awned . . . . . . 1. A. ADSCENSIONIS.
Empty glumes awned:
  Awns $\frac{1}{6}$ in. long; spikelets $\frac{5}{8}$ in. long . . 2. A. SETACEA.
  Awns $\frac{1}{16}$ in. long; spikelets $\frac{3}{8}$ in. long . . *A. Hystrix.*

1. **A. Adscensionis** Linn. **Teli-tenna,** *S.*

A. HYSTRIX Linn. f. Suppl. p. 113 (1781); Hk. f. in Fl. Brit. Ind. VII, p. 225 (1817). *A. tripilis* Thunb. Fl. Ceil. p. 2 (1825); Trin. & Rupr. in Mem. Acad. Petersb., sér. 6, VII, p. 147 (1849).

Ceylon (Thunberg).

Also in S. India.
This record requires confirmation.

*Page* 254.—

**Garnotia tectorum** Hk. f.
If this is *Berghausia mutica* Munro it should take the name *G. mutica* Druce.

*Page* 255.—

**G. fuscata** Thw.
Adam's Peak.

*Page* 257.—

6. **G. courtallensis** Thw.
A common weed on estates 4000–8000 ft.

For *Sphærocaryum elegans* Nees read:

**S. pulchellum** Merr. in Phil. Journ. Sc. Bot. XI, p. 52 (1916). *Isachne pulchella* Roth, Nov. Sp. p. 58 (1821). *Sphærocaryum elegans* Nees ex Steud. Nom., ed. 2, II, p. 620 (1841) in syn.

*Page* 261.—For *Sporobolus indicus* Br. read:

**S. elongatus** R. Br. Prodr. p. 170 (1810). *Agrostis elongata* Lamk. Ill. I, p. 142 (1791). *S. indicus* Hk. f. in Trim. Fl. Ceyl. V, p. 261 (1900) non R. Br.

47a. Agrostis *Linn.*

A. alba Linn. Sp. Pl. p. 63 (1753); Hk. f. in Fl. Brit. Ind. VII, p. 254 (1897).
This species has been collected near Baker's Farm, Nuvara Eliya.
A native of Europe, introduced into the Himalayas and Nilghiris.

48a. Holcus *Linn.* pp.

H. mollis Linn. Syst., ed. 10, p. 1035 (1759).
This species has been collected, presumably as a weed, in the Horton Plains Rest House Garden in 1902.

49a. Arrhenatherum *Beauv.*

A. avenaceum Beauv. Agrost. p. 55 t. 11 f. 5 (1812).
This species was collected at Nuvara Eliya in 1903.

*Page* 274.—

*Chloris Gayana* Kunth is occasionally cultivated as a fodder grass.

*Page* 276.—For *Eleusine* Gaertn. read:

Spikes terminated by a spikelet . . . 58. Eleusine.
Spikes terminating with a sharp point . . 58a. Dactyloctenium.

*Page* 278.—For *Eleusine brevifolia* Br. read:

**E. lagopoides** Merr. in Phil. Journ. Sc. XIX, p. 339 (1921). *Cynosurus lagopoides* Burm. f. Fl. Ind. p. 29 (1768). *Dactylis brevi-*

*folia* Willd. Sp. Pl. I, p. 410 (1797). *Eleusine brevifolia* R. Br. in Wall. Cat. no. 3815 (1831).

### 58a. DACTYLOCTENIUM *Willd.*

Annual grass; infl. of 1–5 spikes, arranged digitately on a common peduncle; spikelets 3–4-fld., densely crowded at right angles to the rachis, compressed; gl. I, 1-veined, oblong; gl. II, 1-veined, 2-lobed, awned; flg. glumes ovoid; anth. minute; styles short; seed orbicular.—Sp. mostly African; 1 widely distributed.

For *Eleusine ægyptiaca* Desf. read:

**Dactyloctenium ægyptiacum** Willd. Enum. Hort. p. 1029 (1816). *Cynosurus ægyptiacus* Linn. Sp. Pl. p. 72 (1753). *Eleusine ægyptiaca* Desf. Fl. Atlant. I, p. 85 (1798).

*Page* 283.—

**Leptochloa chinensis** Nees.
Dry country, common in swampy places.

*Page* 286.—For *Phragmites Karka* Trin. read:

**P. maxima** (Forsk.). *Arundo Phragmites* Linn. Sp. Pl. p. 81 (1753). *A. maximum* Forsk. Fl. Æg. Arab. p. 24 (1775). *A. vulgaris* Lamk. Fl. Fr. III, p. 615 (1778). *A. Karka* Retz. Obs. IV, p. 21 (1786). *Phragmites vulgaris* Trin. Fund. Agrost. p. 134 (1820). *P. communis* Trin. l. c. *P. Karka* Trin. ex Steud. Nomencl., ed. 2, II, p. 324 (1841). *P. phragmites* Karst. Deutschl. Fl. p. 378 (1895). *Trichoon Karka* Roth, Catal. II, p. 2 (1797–1806). *T. Phragmites* Schinz & Thell. in Vieteljahrschr. Naturf. Ges. Zurich. LIII, p. 587 (1905).

*Page* 288.—

**Elytrophorus articulatus** Beauv. **Uhasu,** *S.* **Eeti,** *T.*

*Page* 289.—

### 67. ERAGROSTIS *Host.*

Add to key:

Rhachilla of spikelets articulate, breaking up from above downwards (*Cataclastos*):
  Inflorescence an open panicle:
    Spikelets $\frac{1}{10}$–$\frac{1}{6}$ in. long:
      Grain ovoid; stam. 3; leaf-sheaths ciliate at mouth; panicle 2–8 in., not interrupted whorls:
        Panicle not glandular or odorous; spikelets 0·05 in. long; glume I twice as long as glume II . . . . . . . . 1. E. TENELLA.
        Panicle glandular and odorous below; spikelets 0·1 in. long; glumes I and II subequal . . . . . . . 1a E. VISCOSA.

Grain obovoid; stam. 2; leaf-sheaths not ciliate at mouth; panicle long; often interrupted; glumes I and II subequal . . 2. E. JAPONICA.
Spikelets $\frac{1}{5}$ in. long; panicle 4–6 in. long . . 2a. *E. aspera.*
Inflorescence spiciform:
Margins of flowering glumes ciliate; flowering glumes acuminate . . . . . . 2b. E. CILIATA.
Margins of flowering glumes without cilia; palea with long cilia . . . . . . 2c. E. CILIARIS.

*Page* 290.—

1. **E. tenella** R. & S.

Add Syn.:

*E. amabilis* Merr. Int. Rumph. p. 95 (1917) non W. & A.

*Page* 291.—For *E. tenella* var. *viscosa* Stapf read:

1a. **E. viscosa** Trin. in Mem. Acad. Petersb., sér. 6, I, p. 397 (1831); Haines Bot. Bih. and Or. p. 957 (1924).

As *E. tenella*, but panicle more cylindric with short spreading branches, glandular and odorous; spikelets much larger, brown; gls. I and II subequal; keel of palea rigidly ciliate.

Common by roadsides, etc., up to 5000 ft. Fls. all the year.
Also in India.

For *E. interrupta* Beauv. read:

2. **E. japonica** Trin. in Mem. Acad. Petersb., sér. 6, I, p. 405 (1831); Merr. Sp. Blanc. p. 73 (1918). *Poa japonica* Thunb. Fl. Jap. p. 31 (1784). *Eragrostis interrupta* Beauv. Agrost. p. 71 (1812).

2a. E. ASPERA Nees in Linnæa VII, p. 408 (1832); Stapf, in Fl. Brit. Ind. VII, p. 314 (1897); Cooke Fl. Bomb. II, p. 1023 (1908). *Poa aspera* Jacq. Hort. Vindob. III, p. 32 t. 56 (1776).
Ceylon (Cooke).
Tropics of the Old World.

2b. **E. ciliata** Nees Agrost. Bras. p. 512 (1833); Stapf, l. c. p. 313. *Poa ciliata* Roxb. Hort. Beng. p. 82 (1814) nomen; Fl. Ind. I, p. 334 (1820). *P. rupestris* Roth, Nov. Sp. p. 71 (1821).

Perennial; stems tufted, about 3 ft. high, erect or ascending; leaves linear-lanceolate, acuminate, spreading, up to $\frac{1}{4}$ in. broad; leaf-sheaths ciliate at the mouth; panicle spiciform, compact, about 3 in. long; spikelets about $\frac{1}{6}$ in., compressed, 6–12-flowered; glumes acuminate, ciliate; grain ovoid or ellipsoid.

Dry country; rather rare. Middeniya; near Mullaitivu. Fls. March.
Also in India and Cochin-china.

2c. **E. ciliaris** Link Enum. Hort. Berol. I, p. 192 (1821); Stapf, l. c. p. 314. *Poa ciliaris* Linn. Syst. Nat., ed. X, p. 875 (1759). ?*P. riparia* Willd. in Ges. Naturf. Fr. Berl. N. Schrift. IV, p. 185 (1803).

Annual; stems densely tufted, 6 in.–1½ ft. high, erect or spreading; leaves linear, spreading; leaf-sheaths ciliate at the mouth; panicle spiciform, compact, ½–4 in. long; spikelets about $\frac{1}{10}$ in., compressed, 6-12-flowered; empty glumes unequal or subequal; margins of the flowering glumes without cilia; keels of the palea ciliate; stamens 3; grain ovoid.

Sea coast, common. Fl. Jan.–March, Sept.
Throughout the tropics.
I do not understand how *E. riparia* Steud. differs from this species. According to the Fl. Brit. Ind. it sometimes has an open panicle.

*Page* 293.—For *Eragrostis amabilis* W. & A. read:

3. **E. unioloides** Nees ex Steud. Syn. p. 269 (1854). *Poa unioloides* Retz. Obs. V, p. 10 (1789). *E. amabilis* W. & A. ex Hk. & Arn. Bot. Beech. Voy. p. 251 (1830) excl. syn. Linn.

*Page* 295.—

7. **E. nigra** Nees.

For Dambulla read:

Dimbula.
Montane zone above 4000ft.; common.

*Page* 297.—For *E. major* Host. read:

10. **E. cilianensis** Link. ex Vign. Lut. in Malp. XVIII, p. 386 (1904). *Briza Eragrostis* Linn. Sp. Pl. p. 70 (1753). *Poa cilianensis* All. Fl. Pedem. II, p. 246 t. 91 f. 2 (1785).

For *Centhotheca lappacea* Desv. read:

**C. latifolia** Trin. Fund. Agrost. p. 141 (1820). *Holcus latifolius* Linn. Syst., ed. X, p. 1305 (1759). *Cenchrus lappaceus* Linn. Sp. Pl., ed. 2, p. 1488 (1762). *Centotheca lappacea* Desv. in Nouv. Bull. Soc. Philom. II, p. 189 (1810). *C. malabarica* Merr. in Phil. Journ. Sc. excl. syn. Linn.

*Page* 304.—For *Æluropus villosus* Trin. read:

**A. lagopoides** Trin. ex Thw. Enum. p. 574 (1864); Merr. in Phil. Journ. Sc. XIX, p. 340 (1921). *Dactylis lagopoides* Linn. Mant. I, p. 33 (1767). *Æluropus villosus* Trin. Fund. Agrost. p. 143 (1820).

### 73a. Festuca *Linn.*

F. bromoides Linn. Sp. Pl. p. 75 (1753).
Nuvara Eliya (1903, 1926).

### 73b. Bromus *Linn.*

Annual or perennial grasses; spikelets many-fld., panicled, laterally compressed, lanceolate; rachilla jointed below the

flg. glumes, not produced beyond the uppermost gl.; gls. I and II unequal, 1–5-veined, 1–3-awned; lodicules 2; stam. 3; grain linear-oblong.—Sp. 40; temperate regions.

B. UNIOLOIDES H. B. K. Nov. Gen. and Sp. I, p. 151 (1815); Hk. f. in Fl. Brit. Ind. VII, p. 357 (1897). *Ceratochloa unioloides* DC. Cat. Hort. Monsp. p. 92 (1813). *B. Schraderi* Kunth Ind. VII, p. 416 (1833).

Annual, usually about 1½ ft. high; lvs. about 6 in. long, 0·15 in., broad, glabrous; panicles lax; spikelets very large, 1 in. long, elliptic-lanceolate, green.

A weed of cultivated ground in the montane zone. Dimbula (1882); Nuvara Eliya (1925); Hakgala (1926). Fls. Nov.–Jan., May.

A native of America, naturalised in the Himalayas.

### 73C. BRIZA *Linn.*

Annual or perennial grasses; spikelets many-fld., laterally compressed, nodding, ovate; rachilla jointed at the base; gls. I and II subequal, 3–5-veined, persistent; flg. gls. 5- or more-veined; palea hyaline, 2-veined; lodicules 2; stam. 3; grain ovoid.—Sp. about 10; Temperate regions.

B. MINOR Linn. Sp. Pl. p. 70 (1753).

Annual, up to 1½ ft. high; lvs. 2–8 in. long, acute, glabrous; panicles diffuse; spikelets at least $\frac{1}{10}$ in. long, pale green.

Upper montane zone; a weed in waste places. Ambevela (1919); Hakgala; Nuvara Eliya (1925).

A native of Europe and N. Africa but now widely distributed.

*Page* 308.—For *Arundinaria* Mich. read:

Spikes panicled; buds solitary; leaf-sheaths. persistent; bristles scabrous or setulose . 77. INDOCALAMUS.
Spikes racemose; buds numerous; leaf-sheaths deciduous; bristles smooth . . 77a. CHIMONOBAMBUSA.

### 77. **INDOCALAMUS** *Nakai.*

Nodes of branches distant; buds solitary; leaf-sheaths persistent; leaves tessellate; bristles at the mouth of leaf-sheath scabrous or sparingly setulose, brown or almost white; spikelets in terminal panicles at the apices of leafy or leafless shoots; panicles bracteate or not; rachis articulate beneath the flowers; spikelets with 2 empty glumes at the base; fertile glumes more or less tessellate; stam. 3, anthers often coloured; stigmas 2, plumose.—Sp. 7; Tropical Asia.

*Page* 309.—For *Arundinaria Walkeriana* Munro read:

1. **Indocalamus Walkerianus** Nakai, in Journ. Arn. Arb. VI, p. 148 (1925). *Arundinaria Walkeriana* Munro, in Trans. Linn. Soc. XXVI, p. 21 (1868).

For *Arundinaria Wightiana* Nees read:

2. **Indocala mus Wightianus** Nakai, in Journ. Arn. Arb. VI, p. 149 (1925). *Arundinaria Wightiana* Nees in Linnæa IX, p. 482 (1834).

*Page* 310.—For *Arundinaria floribunda* Thw. read:

3. **Indocalamus floribundus** Nakai, in Journ. Arn. Arb. VI, p. 149 (1925). *Arundinaria floribunda* Thw. Enum. p. 375 (1864).

*Page* 311.—For *Arundinaria debilis* read:

4. **Indocalamus debilis** (Thw.). *Arundinaria debilis* Thw. Enum. p. 375 (1864).

### 77a. CHIMONOBAMBUSA *Makino.*

Leaf-sheaths almost unappendaged, deciduous; buds numerous; bristles at the mouth of the leaf-sheath smooth; spikelets racemose; glumes with prominent longitudinal veins, not tessellate; stam. 3; stigmas 2, hairy.—Sp. 12; Tropical Asia.

*Page* 312.—For *Arundinaria densiflora* Munro read:

**Chimonobambusa densiflora** Nakai, in Journ. Arn. Arb. VI, p. 151 (1925). *Arundinaria densiflora* Munro, in Trans. Linn. Soc. XXVI, p. 32 (1868).

Bambusa vulgaris Schrad.
Camus (Monogr. p. 118) considers this a native of Africa.

For *Bambusa nana* Roxb. read:

B. glaucescens Sieb. ex Munro in Trans. Linn. Soc. XXVI, p. 89 (1868). *Ludolphia glaucescens* Willd. in Ges. Naturf. Fr. Berl. Mag. II, p. 320 (1808). *Bambusa nana* Roxb. Beng. p. 25 (1814) nomen; Fl. Ind. II, p. 192 (1832).

*Page* 316.—For *Oxytenanthera Thwaitesii* Munro read:

**O. monadelpha** (Thw.). *Bambusa stricta* Roxb. Cor. Pl. t. 80 (1795) non descr. *Dendrocalamus monadelphus* Thw. Enum. p. 376 (1864). *Oxytenanthera densa* E. Camus Bambus t. 19 (1913).

*Page* 326.—Add to key:

Sep. 3–5:
Fls. minute . . . . . . . . . Ammannia.
Fls. large, yellow . . . . . . LVIa. Turneraceæ.

**Part V.**

*Page* 327.—And:

Pet. entire, l. opp. or alt.:
- Shrubs or trees . . . . . . . LII. MYRTACEÆ.
- Herbs . . . . . . . . . LV. ONAGRACEÆ.

*Page* 334.—And:

A. Perianth superior:
- Stam. 6 . . . . . CXXV. BURMANNIACEÆ, etc.
- Stam. 3 . . . . . CXXVIIIa. IRIDACEÆ.
- Stam. 2 . . . . . CXXVI. ORCHIDEÆ, etc.

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[No specific or vernacular names are included. Natural orders are printed in small capitals; synonyms in italics.]


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